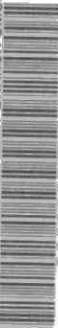


STANDARDS DEVELOPMENT BRANCH OMCE



36936000007569



Drinking Water Surveillance Program

*Plants by lake
12-param
raw.*

SOUTH PEEL (LAKEVIEW) WATER TREATMENT PLANT

Annual Report 1987

TD
434
.S68
1988
MOE



Environment
Ontario

Jim Bradley, Minister

TD
434
.S68
1988

South Peel (Lakeview) water
treatment plant : annual report
1987.

78817

Copyright Provisions and Restrictions on Copying:

This Ontario Ministry of the Environment work is protected by Crown copyright (unless otherwise indicated), which is held by the Queen's Printer for Ontario. It may be reproduced for non-commercial purposes if credit is given and Crown copyright is acknowledged.

It may not be reproduced, in all or in part, part, for any commercial purpose except under a licence from the Queen's Printer for Ontario.

For information on reproducing Government of Ontario works, please contact Service Ontario Publications at copyright@ontario.ca

ISSN 0839-9069

**SOUTH PEEL (LAKEVIEW)
WATER TREATMENT PLANT**

**DRINKING WATER SURVEILLANCE
PROGRAM**

ANNUAL REPORT 1987

**ONTARIO MINISTRY OF ENVIRONMENT
OCTOBER 1988**

c Queen's Printer for Ontario, 1988

ACKNOWLEDGEMENTS

The Drinking Water Surveillance Program (DWSP) employs a team approach requiring the co-operative effort of the Ministry of the Environment (MOE) staff from Water Resources and Laboratory Services Branch and the Regions, as well as plant operational staff from the Municipalities.

This annual report was produced by the DWSP Group (Ron Hunsinger, Peter Bohm, Carol Sackville-Duyvelshoff, Chris Fung and John McGrachan) and by Pat Lachmaniuk (on developmental assignment to the Drinking Water Section).

Helpful input and reviews were received from Drinking Water Section Staff, in addition to reviews by other MOE and municipal personnel.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SOUTH PEEL (LAKEVIEW) WATER TREATMENT PLANT 1987 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 44 plants are being monitored.

The South Peel (Lakeview) Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. This plant serves a population of approximately 450,000 and has a design capacity of 378 x 1000m³/day.

Water samples from the raw, treated and four distribution sites were taken on a monthly basis. The South Peel (Lakeview) Water Treatment Plant was sampled, for approximately 160 parameters, 12 times during 1987. Parameters were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organic (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polynuclear Aromatic Hydrocarbons, Specific Pesticides and Volatiles). Chlorophenols and Specific Pesticides were analysed for in June and November only.

A summary of results is shown in Table 1.

Due to its sampling frequency of once per month, the DWSP is not designed to evaluate all aspects of the bacteriological quality of water, however routine bacteriological monitoring as recommended in the Ontario Drinking Water Objectives (ODWO) is carried out by the operating authority. In terms of the limited DWSP bacteriological examination the water was of good quality.

Inorganic and Physical parameters were below any applicable health related ODWOs.

Of a total of approximately 110 Organic parameters tested for on a monthly basis, none exceeded health related guidelines.

Many of the substances analysed for were naturally-occurring or treatment by-products.

During 1987 the DWSP sampling results indicated that the South Peel (Lakeview) Water Treatment Plant produced good quality water at the plant and this quality was maintained throughout the distribution system.

SOMMAIRE

PROGRAMME DE SURVEILLANCE DE L'EAU POTABLE

STATION D'ÉPURATION DE L'EAU DE SOUTH PEEL (LAKEVIEW) RAPPORT ANNUEL 1987

Le Programme de surveillance de l'eau potable (PSEP) de l'Ontario fournit des informations immédiates, fiables et à jour sur la qualité de l'eau potable. Le PSEP a débuté officiellement en avril 1986. Il est destiné à englober tous les réseaux municipaux d'alimentation en eau de l'Ontario. Actuellement, 44 stations en font partie.

La station d'épuration de South Peel (Lakeview) est une station classique qui traite l'eau du lac Ontario. Le traitement comporte la coagulation, la floculation, la décantation, la filtration, la désinfection et la fluoration. Cette station dessert une population d'environ 450 000 habitants et a une capacité nominale de 378 x 1 000 m³/jour.

Des prélèvements d'eau brute et d'eau traitée ainsi qu'en quatre points du réseau de distribution ont été effectués chaque mois. Douze fois en 1987, ces prélèvements ont été analysés par rapport à environ 160 paramètres dans les catégories suivantes : bactériologique, inorganique et physique (analyses en laboratoire et sur place, présence de métaux) et organique (composés aromatiques chlorés, chlorophénols, pesticides et BPC, dérivés phénoliques, hydrocarbures aromatiques polynucléaires, pesticides particuliers et composés volatils). Les chlorophénols et les pesticides particuliers n'ont été analysés qu'en juin et en novembre.

Le tableau 1 résume les résultats obtenus.

En raison de la fréquence des prélèvements (un par mois), le PSEP ne permet pas d'évaluer tous les aspects de la qualité bactériologique de l'eau. Cependant, comme on le recommande dans le cadre des objectifs relatifs à la qualité de l'eau potable en Ontario, un contrôle bactériologique systématique est effectué par l'exploitant. L'analyse bactériologique limitée du PSEP a révélé une eau de bonne qualité.

Les mesures des paramètres inorganiques et physiques étaient inférieures aux limites applicables fixées par l'Ontario pour l'eau potable.

Pour environ 110 paramètres organiques mesurés chaque mois, aucun résultat n'a dépassé les limites acceptables fixées pour la santé.

Un grand nombre de substances détectées apparaissent naturellement ou sont des produits dérivés de l'épuration.

Les résultats des analyses effectuées en 1987 dans le cadre du PSEP ont indiqué que la station d'épuration de South Peel (Lakeview) donnait une eau de bonne qualité et que cette qualité se maintenait dans tout le réseau de distribution.

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE BY SCAN (1987)

SCAN	RAW			TREATED			SITE1			SITE2			SITE3			SITE4		
	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	47	47	100	48	6	12	48	14	29	35	9	25	40	10	25	52	9	17
CHEMISTRY (FLD)	36	36	100	71	71	100	141	141	100	115	115	100	119	119	100	129	129	100
CHEMISTRY (LAB)	223	202	90	224	167	74	392	364	92	328	291	88	327	279	85	390	351	90
METALS	243	146	60	243	126	51	471	244	51	392	226	57	393	237	60	471	275	58
CHLOROAROMATICS	156	0	0	156	0	0	156	0	0	130	0	0	130	0	0	156	0	0
CHLOROPHENOLS	12	0	0	12	0	0	.	.	.	.	.	.	.	.	.	.	.	.
PAH	51	0	0	51	0	0	.	.	.	.	.	.	.	.	.	.	.	.
PESTICIDES & PCB	297	0	0	295	0	0	295	0	0	248	0	0	247	0	0	297	0	0
PHENOLICS	12	1	8	12	1	8	1	0	0	1	0	0	1	0	0	1	0	0
SPECIFIC PESTICIDES	162	0	0	153	0	0	99	0	0	90	0	0	90	0	0	108	0	0
VOLATILES	337	1	0	339	50	14	339	50	14	281	41	14	282	43	15	338	49	14
	1576	433		1604	421		1942	813		1620	682		1629	688		1942	813	

NO HEALTH RELATED GUIDELINES/LIMITS WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
 A "." INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

SOUTH PEEL (LAKEVIEW) WATER TREATMENT PLANT 1987 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 44 plants are being monitored. Appendix A contains a detailed description of the DWSP.

The DWSP was initiated at the South Peel (Lakeview) Water Treatment Plant in 1984 as a test plant during the developmental period of DWSP. An annual report was published for 1986 (ISBN 0-7729-2559-3).

This report contains information and results for 1987.

PLANT DESCRIPTION

The South Peel (Lakeview) Water Treatment Plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. Sulphur Dioxide is

used as a dechlorinator and ammoniation is used to produce a combined chlorine residual in the distribution system. This plant serves a population of approximately 450,000. It has a design capacity of 378 x 1000m³/day and daily flows ranging from 173 x 1000m³/day to 256 x 1000m³/day.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

METHODS

Water samples were obtained from six DWSP approved locations;

- i) Plant Raw - The water originated from the raw water intake prior to chlorination and was sampled through a copper sample line. The sample tap is located near the lowlift pumps.
- ii) Plant Treated - The water originated from the highlift pump discharge after addition of all treatment chemicals and was sampled through a copper sample line. The sample tap is located in the plant laboratory.
- iii) Distribution System - Site One - This house is approximately 1.4 kilometers from the plant. Water was sampled through copper plumbing from the kitchen sink tap.

- iv) Distribution System - Site Two - This house is approximately 6.8 kilometers from the plant. Water was sampled through copper plumbing from the kitchen sink tap.
- v) Distribution System - Site Three - This house is approximately 36 kilometers from the plant. Water was sampled through copper plumbing from the kitchen sink tap.
- vi) Distribution System - Site Four - This house is approximately 31 kilometers from the plant. Water was sampled through copper plumbing from the kitchen sink tap.

Sample lines in the plant were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

At the distribution system location two types of samples were obtained: a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples are used to make an assessment of the amount by which the levels of inorganic compounds and metals may be changed on standing due to leaching from (or deposition on) the plumbing system. The only analyses carried out on these samples therefore, are General Chemistry and Metals. The free flow sample represented fresh water from the distribution main that had been flowing for five minutes before the sample was taken .

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

SITE LOCATION MAP

LOCATION: SOUTH PEEL (LAKEVIEW) WATER TREATMENT PLANT



Figure 2

SOUTH PEEL (LAKEVIEW) WATER TREATMENT PLANT
LAKE ONTARIO

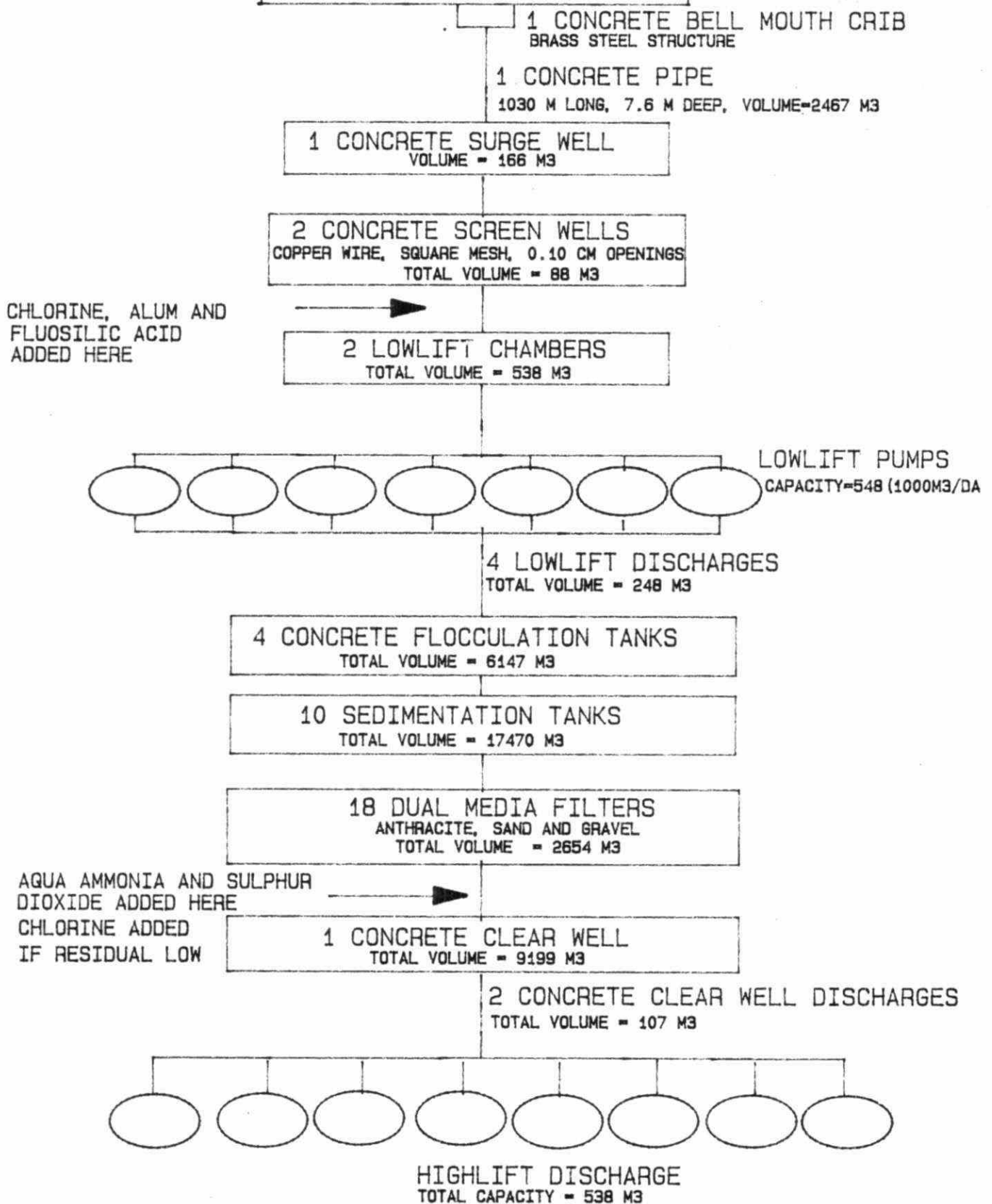


TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

SOUTH PEEL (LAKEVIEW) WATER SUPPLY SYSTEM

<u>LOCATION:</u>	920 EAST AVE MISSISSAUGA, ONTARIO L5E 1W6 (416-278-8471)
<u>SOURCE:</u>	RAW WATER SOURCE - LAKE ONTARIO
<u>RATED CAPACITY:</u>	378 (1000 M3/DAY)
<u>OPERATION:</u>	MINISTRY OF THE ENVIRONMENT (MOE)
<u>PLANT SUPERINTENDENT:</u>	R. TUFTS
<u>MINISTRY REGION:</u>	CENTRAL
<u>MOE OFFICER:</u>	J. TIMKO

<u>MUNICIPALITY SERVED</u>	<u>POPULATION</u>
BRAMPTON	125,000
MISSISSAUGA	325,000

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. The retention time was calculated by dividing the volume of water between the two sampling points by the sample day flow. For example, if it was determined that the retention time within the plant was five hours then there would be a five hour interval between the raw and treated sampling. Similarly, if it was estimated that it took approximately one day for the water to travel from the plant to the distribution system site, this site would be sampled one day after the treated water from the plant.

Stringent DWSP sampling protocols were followed to eliminate any variance (Appendix B).

Sample day flow, treatment chemical dosages and Field Chemistry measurements such as Turbidity, Chlorine Residuals, pH and Temperature were recorded on the day of sampling and were entered on the DWSP data base as submitted.

RESULTS

The South Peel (Lakeview) Water Treatment Plant was sampled for approximately 160 parameters on a monthly basis.

The Specific Pesticides and Chlorophenols scans were sampled for in June and November only. Polynuclear Aromatic Hydrocarbons and Phenolics are only analysed for in the raw and treated water at the plant.

Table 3 contains information on sample day retention time, flow rate, treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analysed for by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 presents parameters not detected.

Associated guidelines and detection limits are also supplied on both tables. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS) recently initiated by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

As stated under Results, traces do not indicate quantifiable values, as defined by established MOE Laboratory analytical reporting protocols. While they can be used in trend analysis or confirmation of a specific contaminant that is repeatedly detected at these levels, the occasional finding of a trace level of a contaminant is not considered to be significant. **DISCUSSION OF GUIDELINES AND LIMITS THEREFORE, IS ONLY CONDUCTED ON POSITIVE RESULTS.**

Bacteriology

Positive results for the Bacteriology scan were present six times in the treated water, fourteen times in the distribution system Site 1 water, nine times in the site 2 water, ten times in the

site 3 water and nine times in the site 4 water. The positive parameters were Standard Plate Count, Total Coliform and/or Total Coliform Background. Total Coliforms were found at 1 count/mL in the February and September free flow samples at Site 1. Standard Plate Counts and Total Coliform Background were very low in all treated waters indicating the maintenance of good bacteriological quality in the distribution system.

Due to its sampling frequency of once per month, the DWSP is not designed to evaluate all aspects of the bacteriological quality of water. Routine bacteriological testing as recommended in the ODWO is carried out by the operating authority. Water from the South Peel (Lakeview) Water Treatment Plant, in terms of the limited DWSP bacteriological examination, was of good quality.

Inorganic and Physical Parameters

Laboratory and Field Chemistry

The results for Laboratory and Field Chemistry scans were below any applicable health related ODWOs.

Turbidity in water is caused by the presence of suspended matter such as clay, silt, colloidal particles, plankton and other microscopic organisms. The most important health effect of Turbidity is its interference with disinfection in the treatment plant and maintenance of a chlorine residual. The ODWO of 1 FTU is only applicable to treated water leaving the plant.

There are ODWOs that are set for parameters which are related to aesthetic quality rather than health; one of these is Organic Nitrogen. Organic Nitrogen values are calculated by subtracting the Ammonia value (Ammonium Total) from the Total Kjeldahl Nitrogen value (Nitrogen Tot Kjeld). The aesthetic ODWO of 0.15 mg/l was exceeded in many of the treated water samples and distribution samples. When Organic Nitrogen exceeds 0.15 mg/l in treated water some taste and odour problems can result.

This guideline is exceeded in most supplies. Based on the information obtained from the DWSP, which generally indicates no problems with this parameter exceedence, the guideline may be modified when the ODWOs are reviewed.

The aesthetic ODWO of 5.0 True Colour Units (TCU) for Colour was exceeded five times in the distribution system site one standing sample and seven times in the free flow sample. Colour in drinking water may be due to the presence of natural or synthetic organic substances as well as certain metallic ions.

It is desirable that the Temperature of drinking water be less than 15°C; the palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The desired ODWO was exceeded fourteen times in the treated water and the free flow distribution waters.

As part of the treatment plant process, Fluosilic acid is added to the treated water (Table 3). Where fluoridation is practised, the fluoride concentration recommended in the ODWO is 1.2 mg/L, plus or minus 0.2 mg/L. Results indicate that the plant was generally successful in maintaining this level in the treated water however the levels occasionally fell below 1.0 mg/L.

Metals

The results reported for the Metal scan were below any applicable health related ODWOs.

The levels of Copper and Iron are lower in the treated water than in the raw. This is a result of the treatment process, the addition of alum as a coagulant to the raw water and the resulting coagulation/settling process has been shown to reduce the levels of most metals.

Elevated levels of Copper and Zinc and minimal increases in the levels of Lead were detected in the standing samples as compared to the free flow distribution samples from all locations. This occurred for Nickel in the Site 2 sample. This indicates that small quantities of these metals were leached from the household plumbing as the water stood overnight.

The aesthetic ODWO of 0.3 mg/L for Iron was exceeded ten times in the distribution system Site 1 waters and once in the Site 2 water. All of these samples had high Turbidity values and most

had high Colour, which could indicate a disturbance of sediment. At levels greater than 0.30 mg/L, laundry may become stained with a brownish colour and a bitter astringent taste may be imparted in the water and beverages.

At present there is no evidence that Aluminum is physiologically harmful and no health limit has been specified. The measure of residual Aluminum in the treated water is important to indicate efficiency of the treatment process. The ODWOs indicate that a useful guideline is to maintain a residual below 0.1 mg/L as Al in water leaving the plant. Aluminum values marginally exceeded the ODWO operational guideline twenty-seven times in the treated waters.

Organic Parameters

Chloroaromatics

The results of the Chloroaromatics scan showed that eight parameters were detected:

- Hexachloroethane
- 1,2,3-Trichlorobenzene
- 1,2,4-Trichlorobenzene
- 1,3,5-Trichlorobenzene
- 1,2,3,5-Tetrachlorobenzene
- 2,3,6-Trichlorotoluene
- 2,4,5 Trichlorotoluene
- Pentachlorobenzene

Hexachloroethane was detected at trace levels, twice in the treated water sample and the distribution system Site 3 water, and once in the Site 2 and Site 4 waters.

1,2,3-Trichlorobenzene was detected at trace levels, once in the treated water and distribution system Site 2 water.

1,2,4-Trichlorobenzene was detected at a trace level, once in the distribution system Site 3 water.

1,3,5-Trichlorobenzene was detected at a trace level, once in the distribution system Site 1 water.

1,2,3,5-Tetrachlorobenzene was detected at a trace level, once in the distribution system Site 3 water.

2,3,6-Trichlorotoluene was detected at a trace level, once in the distribution system Site 3 water.

2,4,5 Trichlorotoluene was detected once at a trace level, in the treated water.

Pentachlorobenzene was detected at a trace level, once in the distribution system Site 3 water.

Review of these results, along with information from other water supplies on DWSP, would indicate that certain Chloroaromatics

appear more frequently in the treated water than in the raw and almost always only at trace levels. These occurrences could possibly be due to a reaction of chlorine with organics present in the water or the distribution system.

Chlorophenols

The results of the Chlorophenol scan showed that no Chlorophenols were detected.

Pesticides and PCB (Polychlorinated Biphenyl)

Results of the Pesticides and PCB scan showed that four pesticides were detected:

Alpha BHC

Beta BHC

Lindane

Atraton

Lindane consists of several isomers of BHC (Benzene Hexachloride). Alpha BHC is the isomer predominantly found in the Great Lakes basin as indicated in results from other DWSP locations.

Alpha BHC was detected at trace levels, nine times in the treated water, ten times in the distribution system Site 1 water and eight times in the Site 2, Site 3 and Site 4 waters.

Beta BHC was detected at trace levels, once in the treated water and once in the distribution system Site 3 and 4 waters.

Lindane was detected at trace levels, five times in the treated water and distribution system Site 1 water, four times in the Site 2 water, twice in the Site 3 water and three times in the Site 4 water.

Atraton was detected at a trace level, once in the distribution system Site 1 water.

Specific Pesticides

Results of the Specific Pesticide scan showed that three parameters were detected:

Bladex

Prometone

Simazine

Bladex was detected at a trace level once in the distribution system Site 3 water.

Prometone was detected at a trace level, once in the distribution system Site 3 water.

Simazine was detected once at a trace level, in the distribution system Site 3 water.

Phenolics

Phenolics were detected at trace levels, three times in the treated water. One positive result was detected in the treated

water sample but was considered by Laboratory analysts as unreliable due to contamination. Phenolic compounds are present in the aquatic environment as a result of natural and/or industrial processes.

Polynuclear Aromatic Hydrocarbons (PAH)

Results of the PAH scan show that no PAHs were detected.

Volatiles

Results of the Volatile scan show that seven parameters, other than Trihalomethanes (THMs), were detected:

Benzene

Toluene

Ethylbenzene

Meta and Para-Xylene

Ortho-Xylene

Trichloroethylene

1,4-Dichlorobenzene

Benzene was detected at 2.3 ug/L in the December distribution system Site 1 water and at 0.6 ug/L in the December Site 3 water. These results are below the United States Environmental Protection Agency's (EPA) Maximum Contaminant Level (MCL) for Benzene of 5.0 ug/L. Since the development of Table 5 the revised Canadian Drinking Water Guidelines have been published containing a Maximum Acceptable Concentration (MAC) also of 5.0 ug/L. Two trace levels were detected in the Site 1 and Site 2 waters and one trace level in both the Site 3 and Site 4 waters.

Toluene values detected in all of the December water samples were considered by the Laboratory analysts as unreliable due to contamination as per the remark 'UCS'. Toluene was detected at trace levels, once in the treated water ,twice in the distribution system Site 1 and Site 2 waters and once in the Site 3 and Site 4 waters.

Ethylbenzene was detected at trace levels, three times in the treated water and distribution system Site 1 water, once in the Site 2 water and four times in the Site 3 and Site 4 waters.

Meta and Para-Xylene are reported as one compound, M-Xylene. It was detected in July at 0.30 ug/L in the treated water sample and at 0.20 ug/L in the distribution system Site 2 and Site 3 waters. These results are below the California State Department of Health Guideline Level for Meta and Para-Xylene in drinking water of 620 ug/L. Since the development of Table 5 the revised Canadian Drinking Water Guidelines have been published containing an Aesthetic Objective of 300 ug/L for total Xylenes.

Ortho-Xylene (O-Xylene) was detected at trace levels, once in the treated water and distribution system Site 1 water and twice in the Site 3 water.

These volatiles are typically found on an occasional basis at other water supplies included on the DWSP usually at trace levels.

Trichloroethylene was detected at a trace level once in the distribution system Site 4 water.

1,4-Dichlorobenzene was detected at trace levels, once in the distribution system Site 2 and Site 3 waters.

THMs are acknowledged to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised mainly of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs.

Chloroform, Chlorodibromomethane, Dichlorobromomethane and Total THMs were detected in all treated waters. Bromoform was detected at trace levels three times in the treated water and distribution system Site 1 water, once in the distribution system Site 2 water and four times in the Site 4 water. All THM occurrences were well below the ODWO of 350 ug/L for Total THMs.

Comparison with the DWSP analyses reported in the 1986 annual report shows that raw and treated water quality for 1986 and 1987 has remained consistent.

CONCLUSIONS

The South Peel (Lakeview) Water Treatment Plant for the sample year of 1987 produced good quality water at the plant and this

was generally maintained throughout the distribution system.

Site 1 water samples produced water of poor aesthetic quality from a number of aspects (colour, turbidity iron) which could be due to its location in an older part of the distribution system, or a deteriorated condition of the plumbing system within the house.

No health related guidelines, for organic or inorganic parameters were exceeded during 1986 and 1987.

RECOMMENDATIONS

One recommendation can be made as follows:

- 1) The data base should be reviewed in consultation with Regional, Plant and DWSP personnel to determine if sampling location, sampling frequency and the number of parameters analysed could be revised to allow for a more efficient characterization of the water.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SAMPLE DAY CONDITIONS			TREATMENT CHEMICAL DOSAGES (MG/L)					
DATE	RETENTION TIME(HRS)	FLOW (1000 M3)	PRE-CHLORINATION	COAGULATION	FLUORIDATION		TASTE & ODOUR	DECHLORINATION
			CHLORINE	ALUM LIQUID	FLUOSILIC	ACID	AMMONIUM ANHYDROUS	SULPHUR DIOXIDE
JAN 05	5.8	145.4	3.00	5.00	1.12		.22	.37
FEB 02	5.8	145.4	2.70	5.00	1.17		.20	.60
MAR 02	5.3	159.0	3.30	20.00	1.00		.20	.78
APR 06	5.3	159.0	2.50	15.00	1.15		.14	.47
MAY 04	4.8	177.0	4.40	3.00	1.12		.20	.57
JUN 01	3.4	250.0	3.90	5.00	.91		.13	.60
JUL 06	3.1	273.0	3.30	5.00	1.15		.15	.50
AUG 04	5.3	159.0	3.00	5.00	1.10		.16	.47
SEP 08	3.8	218.0	5.27	5.00	1.00		.20	.12
OCT 05	4.7	177.0	2.80	5.00	1.18		.20	.73
NOV 04	7.7	109.0	3.70	5.00	1.12		.15	.53
DEC 08	9.3	90.9	3.70	12.00	1.05		.19	.79

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	RAW			TREATED			SITE1			SITE2			SITE3			SITE4		
		TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
BACTERIOLOGICAL	AEROMONAS SP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0
	COLIFORM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0
	ESCHERICHIA COLI BY PRESENCE/ABSENCE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0
	FECAL COLIFORM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0
	FECAL COLIFORM MEMBRANE FILTRATION	12	12	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P/A BOTTLE	-	-	-	12	0	0	12	0	0	9	0	0	10	0	0	12	1	0
	STANDARD PLATE COUNT MEMBRANE FILT.	11	11	0	12	5	0	12	10	0	8	6	0	10	9	0	11	8	0
	STAPH AUREUS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0
	TOTAL COLIFORM BACKGROUND MF	12	12	0	12	1	0	12	2	0	9	3	0	10	1	0	12	0	0
	TOTAL COLIFORM MEMBRANE FILTRATION	12	12	0	12	0	0	12	2	0	9	0	0	10	0	0	12	0	0
*TOTAL SCAN BACTERIOLOGICAL		47	47	0	48	6	0	48	14	0	35	9	0	40	10	0	52	9	0
*TOTAL GROUP BACTERIOLOGICAL		47	47	0	48	6	0	48	14	0	35	9	0	40	10	0	52	9	0
CHEMISTRY (FLD)	FIELD COMBINED CHLORINE RESIDUAL	-	-	-	12	12	0	23	23	0	20	20	0	20	20	0	20	20	0
	FIELD FREE CHLORINE RESIDUAL	-	-	-	11	11	0	22	22	0	15	15	0	19	19	0	15	15	0
	FIELD PH	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0
	FIELD TEMPERATURE	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0
	FIELD TOTAL CHLORINE RESIDUAL	-	-	-	12	12	0	24	24	0	20	20	0	20	20	0	22	22	0
	FIELD TURBIDITY	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0
*TOTAL SCAN CHEMISTRY (FLD)		36	36	0	71	71	0	141	141	0	115	115	0	119	119	0	129	129	0
CHEMISTRY (LAB)	ALKALINITY	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	SITE			RAW			TREATED			SITE1			SITE2			SITE3			SITE4		
		TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
CHEMISTRY (LAB)	AMMONIUM TOTAL	12	11	1	12	9	3	24	18	4	20	20	0	20	17	1	24	23	1			
	CALCIUM	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	CHLORIDE	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	COLOUR	11	7	4	12	2	10	23	18	5	20	2	17	20	0	20	23	4	19			
	CONDUCTIVITY	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	CYANIDE	9	0	0	9	0	0	9	0	0	8	0	0	7	0	0	8	0	0			
	FLUORIDE	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	23	23	0			
	HARDNESS	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	MAGNESIUM	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	NITRITE	12	8	4	12	0	7	24	16	6	20	11	9	20	3	14	24	17	7			
	NITROGEN TOTAL KJELDAHL	12	12	0	11	11	0	24	24	0	20	20	0	20	20	0	24	23	1			
	PH	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	PHOSPHORUS FIL REACT	12	11	1	12	0	9	.	.	.	.	.	.	.	.	.	.	.	.
	PHOSPHORUS TOTAL	12	10	1	12	1	6	.	.	.	.	.	.	.	.	.	.	.	.
	SODIUM	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	TOTAL NITRATES	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	TOTAL SOLIDS	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	TURBIDITY	11	11	0	12	12	0	24	24	0	20	18	2	20	19	1	24	21	3			
*TOTAL SCAN CHEMISTRY (LAB)		223	202	11	224	167	35	392	364	15	328	291	28	327	279	36	390	351	31			
METALS	ALUMINUM	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			
	ARSENIC	12	0	0	12	0	0	24	0	0	20	1	0	20	0	0	24	0	0			
	BARIUM	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0			

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	SITE			TREATED			SITE1			SITE2			SITE3			SITE4		
		RAW	TRACE		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
METALS	BERYLLIUM	12	0	0	12	0	0	24	0	0	20	0	0	20	0	0	24	0	0
	BORON	12	5	7	12	4	8	24	9	15	20	8	12	20	9	11	24	8	16
	CADMIUM	12	0	0	12	0	0	24	1	0	20	0	0	20	0	0	24	0	0
	CHROMIUM	12	11	0	12	5	0	24	10	0	20	13	0	20	12	0	24	14	0
	COBALT	12	1	0	12	0	0	24	0	0	20	0	0	20	1	0	24	3	0
	COPPER	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0
	CYANIDE	3	0	0	3	0	0	3	0	0	2	0	0	3	0	0	3	0	0
	IRON	12	12	0	12	9	0	24	21	0	20	13	0	20	17	0	24	23	0
	LEAD	12	4	0	12	0	0	24	5	0	20	6	0	20	8	0	24	10	0
	MANGANESE	12	12	0	12	11	0	24	24	0	20	19	0	20	20	0	24	24	0
	MERCURY	12	10	0	12	9	0	12	9	0	10	10	0	10	10	0	12	11	0
	MOLYBDENUM	12	6	0	12	11	0	24	6	0	20	16	0	20	19	0	24	19	0
	NICKEL	12	10	0	12	9	0	24	20	0	20	18	0	20	17	0	24	21	0
	SELENIUM	12	0	0	12	0	0	24	0	0	20	0	0	20	0	0	24	0	0
	STRONTIUM	12	12	0	12	12	0	24	24	0	20	20	0	20	20	0	24	24	0
	URANIUM	12	11	1	12	11	1	24	22	2	20	18	2	20	20	0	24	22	2
	VANADIUM	12	4	0	12	1	0	24	0	0	20	5	0	20	6	0	24	2	0
	ZINC	12	12	0	12	8	0	24	21	0	20	19	0	20	18	0	24	22	0
*TOTAL SCAN METALS		243	146	8	243	126	9	471	244	17	392	226	14	393	237	11	471	275	18
*TOTAL GROUP INORGANIC & PHYSICAL		502	384	19	538	364	44	1004	749	32	835	632	42	839	635	47	990	755	49
CHLOROAROMATICS	123 TRICHLOROBENZENE	12	0	0	12	0	1	12	0	0	10	0	1	10	0	0	12	0	0
	1234 TETRACHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	SITE			SITE			SITE1			SITE2			SITE3			SITE4		
		RAW			TREATED			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
CHLOROAROMATICS	1235 TETRACHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	1	12	0	0
	124 TRICHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	1	12	0	0
	1245 TETRACHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	135 TRICHLOROBENZENE	12	0	0	12	0	0	12	0	1	10	0	1	10	0	0	12	0	0
	236 TRICHLOROTOLUENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	1	12	0	0
	245 TRICHLOROTOLUENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	1	12	0	0
	26A TRICHLOROTOLUENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	HEXACHLOROBUTADIENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	HEXACHLOROETHANE	12	0	0	12	0	2	12	0	0	10	0	1	10	0	2	12	0	1
	OCTACHLOROSTYRENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	PENTACHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	1	12	0	0
*TOTAL SCAN CHLOROAROMATICS		156	0	0	156	0	3	156	0	1	130	0	3	130	0	7	156	0	1
CHLOROPHENOLS	234 TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	2345 TETRACHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	2356 TETRACHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	245-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	246-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	PENTACHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALACHLOR	12	0	0	11	0	0	11	0	0	10	0	0	10	0	0	12	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	SITE			SITE			SITE1			SITE2			SITE3			SITE4		
		RAW			TREATED			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
PESTICIDES & PCB	ALDRIN	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	ALPHA BHC	12	0	10	12	0	9	12	0	10	10	0	8	10	0	8	12	0	8
	ALPHA CHLORDANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	ATRATONE	12	0	0	11	0	0	11	0	0	10	0	1	10	0	0	12	0	0
	BETA BHC	12	0	0	12	0	1	12	0	0	10	0	0	10	0	1	12	0	1
	DICHLORODIPHENYLDICHLOROETHANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	DIELDRIN	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	ENDRIN	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	ETHYLENE DIBROMIDE	9	0	0	9	0	0	9	0	0	8	0	0	7	0	0	9	0	0
	GAMMA CHLORDANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	HEPTACHLOR	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	HEPTACHLOR EPOXIDE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	HEXACHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	LINDANE	12	0	2	12	0	5	12	0	5	10	0	4	10	0	2	12	0	3
	METHOXYCHLOR	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	MIREX	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	O,P-DDT	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	OXYCHLORDANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	PCB	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	PPDE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	PPDDT	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	THIOCAN I	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	THIOCAN II	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	THIOCAN SULPHATE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
*TOTAL SCAN PESTICIDES & PCB		297	0	12	295	0	15	295	0	15	248	0	13	247	0	11	297	0	12

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

[illegible]

*TOTAL SCAN POLYAROMATIC HYDROC

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	SITE			TREATED			SITE1			SITE2			SITE3			SITE4		
		RAW			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
SPECIFIC PESTICIDES		2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	2,4,5-T	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	2,4-D	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	24-DICHLOROPHENOKYBUTYRIC	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	AMETRYNE	12	0	0	11	0	0	11	0	0	10	0	0	10	0	0	12	0	0
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	ATRAZINE	12	0	0	11	0	0	11	0	0	10	0	0	10	0	0	12	0	0
	BENOMYL	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	BLADIX	12	0	0	11	0	0	11	0	0	10	0	1	10	0	0	12	0	0
	BUX (METALKAMATE)	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	CARBOFURAN	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	DIALATE	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	DIAZINON	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	DICAMBA	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	DICHLOROVOS	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	DURSBAN	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	EPTAM	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	ETHION	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	GUTHION	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	IPC	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	MALATHION	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	METHYL PARATHION	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	METHYLTRITHION	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	METOLACHLOR	12	0	0	11	0	0	11	0	0	10	0	0	10	0	0	12	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	SITE			SITE			SITE1			SITE2			SITE3			SITE4		
		RAW			TREATED			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
SPECIFIC PESTICIDES	MEVINPHOS	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	PARATHION	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	PHORATE (THIMET)	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	PROMETONE	12	0	0	11	0	0	11	0	0	10	0	1	10	0	0	12	0	0
	PROMETRYNE	12	0	0	11	0	0	11	0	0	10	0	0	10	0	0	12	0	0
	PROPAZINE	12	0	0	11	0	0	11	0	0	10	0	0	10	0	0	12	0	0
	PROPOXUR	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	RELDAN	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	RONNEL	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	SENCOR	12	0	0	11	0	0	11	0	0	10	0	0	10	0	0	12	0	0
	SEVIN (CARBARYL)	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	SILVEX	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	SIMAZINE	12	0	0	11	0	0	11	0	0	10	0	1	10	0	0	12	0	0
	SUTAN (BUTYLATE)	2	0	0	2	0	0	.	.	.	.	.	.	.	.	.	.	.	.
	TOXAPHENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*TOTAL SCAN SPECIFIC PESTICIDES		162	0	0	153	0	0	99	0	0	90	0	3	90	0	0	108	0	0
VOLATILES	1,1 DICHLORODETHANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	1,1 DICHLOROETHYLENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	1,2 DICHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	1,2 DICHLOROETHANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	1,2 DICHLOROPROPANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	SITE			TREATED			SITE1			SITE2			SITE3			SITE4		
		RAW			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
VOLATILES	1,3 DICHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	1,4 DICHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	1	10	0	1	12	0	0
	111, TRICHLOROETHANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	112 TRICHLOROETHANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	1122 TETRA-CHLOROETHANE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	BENZENE	12	0	0	12	0	0	12	1	2	10	0	2	10	1	1	12	0	1
	BROMOFORM	12	0	0	12	0	3	12	0	3	10	0	1	10	0	3	12	0	4
	CARBON TETRACHLORIDE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	CHLOROBENZENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	CHLORODIBROMOMETHANE	12	0	0	12	12	0	12	12	0	10	10	0	10	10	0	12	12	0
	CHLOROFORM	12	0	1	12	12	0	12	12	0	10	10	0	10	10	0	12	12	0
	DICHLOROBROMOMETHANE	12	0	0	12	12	0	12	12	0	10	10	0	10	10	0	12	12	0
	ETHYLENE DIBROMIDE	3	0	0	3	0	0	3	0	0	2	0	0	3	0	0	3	0	0
	ETHYLBENZENE	12	0	0	12	0	3	12	0	3	10	0	1	10	0	4	12	0	4
	M-XYLENE	12	0	0	12	1	1	12	0	1	10	1	1	10	1	1	12	0	1
	METHYLENE CHLORIDE	10	0	0	12	0	0	12	0	0	9	0	0	9	0	0	11	0	0
	O-XYLENE	12	0	0	12	0	1	12	0	1	10	0	0	10	0	2	12	0	0
	P-XYLENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	TETRACHLOROETHYLENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	TOLUENE	12	1	1	12	1	1	12	1	2	10	0	2	10	1	1	12	1	1
	TOTAL TRIHALOMETHANES	12	0	0	12	12	0	12	12	0	10	10	0	10	10	0	12	12	0
	TRANS 1,2 DICHLOROETHYLENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
	TRICHLOROETHYLENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	1
	TRIFLUOROCHLOROTOLUENE	12	0	0	12	0	0	12	0	0	10	0	0	10	0	0	12	0	0
*TOTAL SCAN VOLATILES		337	1	2	339	50	9	339	50	12	281	41	8	282	43	13	338	49	12
*TOTAL GROUP ORGANIC		1027	2	17	1018	51	30	890	50	28	750	41	27	750	43	31	900	49	25

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP

SUMMARY TABLE OF RESULTS (1987)

SCAN	PARAMETER	SITE			RAW			TREATED			SITE1			SITE2			SITE3			SITE4		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
TOTAL		1576	433	36	1604	421	74	1942	813	60	1620	682	69	1629	688	78	1942	813	74			

KEY TO TABLES 5 AND 6

- A ONTARIO DRINKING WATER OBJECTIVES
1. Maximum Acceptable Concentration (MAC)
 - 1+. MAC for Total Trihalomethanes
 - 1*. MAC for Bacteriological Analyses
- Poor water quality is indicated when :
- total coliform counts > 0 < 5
 - P/A Bottle Test is present after 48 hours
 - Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
 - Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
 - Standard Plate Count should not exceed 500 organisms per ml at 35 deg C within 48 hours
2. Interim Maximum Acceptable Concentration (IMAC)
 3. Maximum Desirable Concentration (MDC)
 4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.
- B HEALTH & WELFARE CANADA
1. Maximum Acceptable Concentration (MAC)
 2. Proposed MAC
 3. Interim MAC
- C WORLD HEALTH ORGANIZATION
1. Guideline Value (GV)
 2. Tentative GV
 3. Aesthetic GV
- D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
 2. Suggested No-Adverse Effect Level (SNAEL)
 3. Lifetime Health Advisory
 4. EPA Ambient Water Quality Criteria
- F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
 2. Aesthetic Guideline Level
 3. Maximum Admissable Concentration (MADC)
- G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE
- H USSR MAXIMUM PERMISSIBLE CONCENTRATION
- I NEW YORK STATE AMBIENT WATER GUIDELINE

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample

RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
<hr/>										
BACTERIOLOGICAL										
AEROMONAS SP (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)					
OCT	-	-	-	-	-	-	-	-	-	0
<hr/>										
E. COLI (P/A) (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE =					
OCT	-	-	-	-	-	-	-	-	-	0
<hr/>										
FECAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 0 (A1)					
JAN	6	-	-	-	-	-	-	-	-	-
FEB	6	-	-	-	-	-	-	-	-	-
MAR	370	-	-	-	-	-	-	-	-	-
APR	276	-	-	-	-	-	-	-	-	-
MAY	3	-	-	-	-	-	-	-	-	-
JUN	3	-	-	-	-	-	-	-	-	-
JUL	36	-	-	-	-	-	-	-	-	-
AUG	72	-	-	-	-	-	-	-	-	-
SEP	39	-	-	-	-	-	-	-	-	-
OCT	11	-	-	-	-	-	-	-	-	-
NOV	150 >	-	-	-	-	-	-	-	-	-
DEC	7	-	-	-	-	-	-	-	-	-
<hr/>										
FECAL COLIFORM (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)					
OCT	-	-	-	-	-	-	-	-	-	0
<hr/>										

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
STANDRD PLATE CNT MF (CT/ML)			DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)					
JAN	165	2	.	1	.	1	.	1	.	1
FEB	96	0	.	0	.	0	.	8	.	0
MAR	1400	0	.	1	.	.	.	1	.	2
APR	10P	2	.	2	.	3	.	2	.	1
MAY	68	0	.	1	.	0	.	.	.	1
JUN	35	1	.	1	.	8	.	6	.	3
JUL	460	5	.	9	.	2	.	5	.	0
AUG	119	0	.	5	.	.	.	11	.	1
SEP	840	0	.	9	.	3	.	.	.	5
OCT	56	0	.	1	.	4	.	0	.	2
NOV	630	3	.	5	.	1	.	1	.	0
DEC	240	0	.	0	.	.	.	1	.	1
P/A BOTTLE (0=ABSENT)			DET'N LIMIT = 0		GUIDELINE = 0 (A1*)					
JAN	.	0	.	0	.	0	.	0	.	0
FEB	.	0	.	0	.	0	.	0	.	0
MAR	.	0	.	0	.	.	.	0	.	0
APR	.	0	.	0	.	0	.	0	.	0
MAY	.	0	.	0	.	0	.	.	.	0
JUN	.	0	.	0	.	0	.	0	.	0
JUL	.	0	.	0	.	0	.	0	.	0
AUG	.	0	.	0	.	.	.	0	.	0
SEP	.	0	.	0	.	0	.	.	.	0
OCT	.	0	.	0	.	0	.	0	.	1
NOV	.	0	.	0	.	0	.	0	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	.	0	.	0	.	.	.	0	.	0
STAPH AUREUS (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)					
OCT	.	.	.	.	.	.	.	.	.	0
COLIFORM (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)					
OCT	.	.	.	.	.	.	.	.	.	0
TOTAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)					
JAN	200	0	.	0	.	0	.	0	.	0
FEB	108 A3C	0	.	1	.	0	.	0	.	0
MAR	5200	0	.	0	.	.	.	0	.	0
APR	5100	0	.	0	.	0	.	0	.	0
MAY	20	0	.	0	.	0	.	.	.	0
JUN	40	0	.	0	.	0	.	0	.	0
JUL	146 A3C	0	.	0	.	0	.	0	.	0
AUG	400	0	.	0	.	.	.	0	.	0
SEP	236 A3C	0	.	1	.	0	.	.	.	0
OCT	34 A3C	0	.	0	.	0	.	0	.	0
NOV	2700	0	.	0	.	0	.	0	.	0
DEC	600	0	.	0	.	.	.	0	.	0
T COLIFORM BCKGRD MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = N/A					
JAN	900	0	.	0	.	0	.	0	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	310	0	.	1	.	0	.	0	.	0
MAR	15000	0	.	0	.	.	.	0	.	0
APR	15600	0	.	0	.	0	.	0	.	0
MAY	132	0	.	0	.	0	.	.	.	0
JUN	184	0	.	0	.	1	.	0	.	0
JUL	1380	0	.	0	.	0	.	0	.	0
AUG	1300	0	.	0	.	.	.	3	.	0
SEP	680	0	.	0	.	1	.	.	.	0
OCT	700	4	.	0	.	32	.	0	.	0
NOV	7900	0	.	180	.	0	.	0	.	0
DEC	1100	0	.	0	.	.	.	0	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (FLD)										
FLD CHLORINE (COMB) (MG/L)		DET'N LIMIT = N/A		GUIDELINE =		N/A				
JAN	.	.600	.150	.150	.100	.100	.200	.300	.	.150
FEB	.	.800	.050	.100	.200	.100	.100	.200	.	.400
MAR	.	1.000	.050	.100	.	.	.300	.300	.200	.500
APR	.	.400	.050	.050	.200	.300	.200	.200	.	.400
MAY	.	.850	.050	.100	.100	.150	.	.	.200	.400
JUN	.	1.150	.050	.050	.350	.300	.300	.400	.100	.400
JUL	.	.680	.150	.150	.350	.650	.200	.250	.450	.400
AUG	.	1.250	.	.050	.300	.400	.200	.200	.100	.150
SEP	.	.300	.200	.250	.100	.250	.	.	.200	.300
OCT	.	1.250	.100	.600	.150	.300	.300	.300	.300	.300
NOV	.	.500	.150	.200	.150	.300	.300	.300	.	.400
DEC	.	.650	.300	.300	.	.	.500	.600	.100	.300
FLD CHLORINE FREE (MG/L)										
FLD CHLORINE FREE (MG/L)		DET'N LIMIT = N/A		GUIDELINE =		N/A				
JAN	.	.400	.050	.150	.300	.300	.300	.400	.200	.350
FEB	.	.200	.050	.	.	.200	.400	.500	.100	.300
MAR	.	.100	.050	.100	.	.	.200	.300	.100	.400
APR	.	.100	.050	.050	.100	.300	.200	.300	.	.100
MAY	.	.250	.100	.200	.350	.450	.	.	.100	.400
JUN	.	.300	.050	.050	.200	.400	.	.100	.100	.200
JUL	.	.420	.050	.150	.250	.350	.200	.350	.	.
AUG	.	.100	.100	.100	.	.	.200	.300	.	.
SEP	.	.300	.100	.200	.	.	.	.	.	.100
OCT	.	.	.100	.500	.250	.400	.400	.500	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	.	.400	.100	.100	.250	.400	.400	.500	.	.050
DEC	.	.150	.	.500	.	.	.100	1.000	.100	.200
TOTAL CHLORINE (MG/L)			DET'N LIMIT = N/A		GUIDELINE =		N/A			
JAN	.	1.000	.200	.300	.400	.400	.500	.700	.200	.500
FEB	.	1.000	.100	.100	.200	.300	.500	.700	.100	.700
MAR	.	1.100	.100	.200	.	.	.500	.600	.300	.900
APR	.	.500	.100	.100	.300	.600	.400	.500	.	.500
MAY	.	1.100	.150	.300	.450	.600	.	.	.300	.800
JUN	.	1.450	.100	.100	.550	.700	.300	.500	.200	.600
JUL	.	1.100	.200	.300	.600	1.000	.400	.600	.450	.400
AUG	.	1.350	.100	.150	.300	.400	.400	.500	.100	.150
SEP	.	1.000	.300	.450	.100	.250	.	.	.200	.400
OCT	.	1.250	.200	1.100	.400	.700	.700	.800	.300	.300
NOV	.	.900	.250	.300	.400	.700	.700	.800	.	.450
DEC	.	.800	.300	.800	.	.	.600	.700	.200	.500
FLD PH (DMSNLESS)			DET'N LIMIT = N/A		GUIDELINE =		N/A			
JAN	7.700	7.500	7.400	7.400	7.500	7.500	7.600	7.600	7.600	7.500
FEB	7.600	7.500	7.400	7.400	7.400	7.450	7.500	7.500	7.400	7.500
MAR	7.650	7.200	7.350	7.400	.	.	7.500	7.500	7.400	7.300
APR	7.600	7.200	7.300	7.250	7.500	7.500	7.500	7.500	7.400	7.450
MAY	8.000	7.400	7.400	7.400	7.450	7.250	.	.	7.500	7.500
JUN	8.200	7.500	7.400	7.400	7.500	7.700	7.500	7.450	7.600	7.500
JUL	8.100	7.500	7.400	7.400	7.500	7.550	7.600	7.600	7.500	7.500

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PE'L (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	7.900	7.200	7.400	7.400	7.500	7.500	7.700	7.500	7.600	7.500
SEP	7.900	6.900	7.300	7.300	7.400	7.500	.	.	7.400	7.500
OCT	7.600	7.400	7.300	7.400	7.400	7.450	7.450	7.400	7.400	7.400
NOV	7.680	7.030	7.350	7.350	7.350	7.400	7.350	7.400	7.500	7.450
DEC	7.700	7.300	7.400	7.200	.	.	7.400	7.400	7.500	7.400
TEMPERATURE (DEG.C)										
			DET'N LIMIT = N/A		GUIDELINE =		N/A			
JAN	5.000	5.000	15.000	11.000	10.000	9.000	15.000	6.000	18.000	11.000
FEB	5.000	5.000	18.000	8.000	14.000	10.000	14.000	5.000	17.500	12.000
MAR	7.000	7.000	12.000	7.000	.	.	12.000	4.000	12.000	4.000
APR	6.000	6.000	12.000	7.000	15.000	10.000	14.500	5.500	14.500	5.500
MAY	8.000	9.000	15.500	12.500	17.000	10.000	.	.	17.000	10.000
JUN	11.000	12.000	16.000	14.000	16.000	14.500	21.000	13.000	21.000	13.000
JUL	16.000	17.000	8.000	16.000	18.000	16.000	18.000	16.000	18.000	16.000
AUG	20.000	20.000	21.000	20.500	19.000	15.000	20.000	19.000	16.600	10.000
SEP	19.000	18.000	21.500	19.500	21.000	18.000	.	.	22.000	18.000
OCT	9.000	10.000	20.500	15.000	19.000	16.000	18.500	14.500	18.000	18.000
NOV	10.000	10.000	22.500	15.000	18.000	14.000	22.000	15.000	19.000	14.000
DEC	7.000	5.000	20.000	10.000	.	.	12.000	8.000	18.000	11.000
FLD TURBIDITY (FTU)										
			DET'N LIMIT = N/A		GUIDELINE =					
JAN	5.000	.370	.250	.190	.360	.300	.400	.480	.350	.370
FEB	4.000	.280	.850	2.900	.300	.460	.270	.250	.200	.270
MAR	29.000	.180	5.100	3.300	.	.	.250	.400	.180	.150
APR	47.000	.220	3.500	2.700	.250	.250	.200	.280	.280	.250

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	2.600	.490	1.100	1.500	.500	.410	.	.	.210	.170
JUN	1.100	.160	3.800	3.900	.220	.200	.280	.180	.240	.160
JUL	2.000	.240	.730	.750	.200	.250	.170	.160	.180	.160
AUG	3.200	.120	.900	1.500	.150	.170	.140	.140	.150	.250
SEP	5.000	.200	.450	.390	.210	.130	.	.	.350	.300
OCT	1.000	.160	.140	.410	.340	1.600	.200	.180	.200	.130
NOV	4.100	.440	.220	.240	.230	9.000	.210	.260	.220	.250
DEC	2.300	.240	.200	.220	.	.	.270	.270	.220	.220

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)										
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)					
JAN	107.400	99.000	97.700	99.200	97.900	98.300	100.800	101.000	100.200	99.800
FEB	104.900	95.600	94.400	94.500	95.200	95.500	96.300	96.300	96.500	97.100
MAR	100.600	86.200	88.900	88.700	.	.	91.900	92.400	93.900	93.400
APR	103.900	93.300	96.100	96.500	93.400	95.600	97.400	96.800	100.600	99.200
MAY	103.300	92.700	92.400	93.600	94.100	94.400	.	.	95.400	97.500
JUN	97.000	88.200	88.300	88.500	98.100	95.800	92.100	91.900	90.900	90.400
JUL	99.600	90.800	91.300	91.900	89.900	89.900	94.500	93.800	92.700	92.700
AUG	99.600	89.400	89.900	90.500	90.200	91.000	95.000	95.300	93.200	91.500
SEP	96.200	84.900	90.000	88.800	90.200	89.700	.	.	91.400	91.100
OCT	101.400	91.600	90.700	91.700	94.300	93.900	94.600	93.900	95.700	95.700
NOV	100.300	90.700	93.600	93.400	94.700	95.800	93.800	95.400	95.800	96.000
DEC	100.600	89.700	90.300	90.600	.	.	93.200	92.900	96.500	96.400
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100. (F2)					
JAN	42.700	43.300	42.900	42.600	33.700	43.800	42.600	43.600	43.900	43.800
FEB	41.100	41.700	42.400	41.200	37.300	41.700	41.800	41.800	42.100	42.300
MAR	41.000	42.300	41.800	41.900	.	.	41.800	42.000	44.100	44.500
APR	42.600	43.400	44.200	43.900	42.100	43.800	42.600	42.800	44.700	46.500
MAY	40.000	42.000	40.300	40.900	33.800	40.100	.	.	41.100	41.500
JUN	38.600	39.200	38.000	38.200	38.800	40.200	38.600	39.600	38.600	40.200
JUL	38.600	38.600	40.000	39.800	39.600	39.600	38.800	40.200	40.400	41.200
AUG	39.400	40.200	40.400	41.400	39.000	39.600	40.000	39.400	41.000	42.800
SEP	38.200	38.000	38.000	38.000	33.000	41.400	.	.	41.600	42.000
OCT	40.400	40.200	40.600	42.000	33.400	40.000	41.200	41.200	42.000	41.400

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	40.800	41.000	40.400	42.000	41.200	41.600	42.000	42.200	42.000	42.000
DEC	40.000	41.600	41.800	41.400			42.200	41.200	43.200	44.600
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250.0 (A3)					
JAN	33.500	36.500	35.500	35.500	35.500	35.500	33.500	34.500	36.500	36.500
FEB	33.500	35.500	36.500	36.500	33.000	33.000	35.500	35.500	33.000	33.500
MAR	36.000	39.000	37.500	38.000			34.500	34.000	39.500	39.500
APR	36.000	39.500	43.500	43.000	36.000	37.500	36.000	35.500	42.500	42.500
MAY	27.000	31.000	30.500	30.000	29.500	29.500			30.000	29.500
JUN	24.500	27.500	26.000	26.000	27.500	27.500	28.000	27.000	27.500	28.000
JUL	24.500	27.000	28.000	27.500	27.500	27.500	27.000	27.500	27.500	28.000
AUG	24.000	27.000	27.000	27.000	27.500	26.500	26.500	26.500	27.000	26.500
SEP	24.000	29.000	26.500	26.500	27.000	26.500			27.000	27.000
OCT	23.500	26.000	27.000	26.500	26.000	26.000	26.000	26.000	26.000	26.000
NOV	25.300	27.900	26.700	27.600	28.700	28.000	26.900	28.200	26.200	26.200
DEC	26.200	29.400	30.000	29.600			29.900	29.800	30.900	30.500
COLOUR (HZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)					
JAN	3.500	1.000 <T	10.000	8.000	2.000 <T	1.500 <T	1.000 <T	1.000 <T	2.000 <T	2.000 <T
FEB	1.500 <T	1.000 <T	4.500	11.500	1.500 <T	1.500 <T	1.500 <T	1.000 <T	1.500 <T	1.500 <T
MAR	3.000 <T	1.000	12.500	10.000			1.000 <T	1.500 <T	2.000	2.000
APR	4.500	1.500 <T	13.500	12.500	1.500 <T	1.000 <T	2.000 <T	1.500 <T	2.000 <T	1.000 <T
MAY	3.000	1.500	5.500	6.500	2.000	1.000			1.500	1.000
JUN	1.000 <T	2.000 <T	9.000	9.000	1.000 <T	1.000 <T	1.000 <T	1.000 <T	1.000 <T	1.000 <T
JUL	IUI	1.000 <T	5.000	5.000	1.000 <T	1.000 <T	.500 <T	1.000 <T	1.000 <T	1.000 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	3.000	1.000 <T	5.000	8.500	.500 <T	.500 <T	.500 <T	1.000 <T	1.000 <T	1LA
SEP	3.000	1.000 <T	3.500	3.500	1.000 <T	BDL	.	.	1.000 <T	1.000 <T
OCT	1.500 <T	.500 <T	1.000 <T	.500 <T	1.500 <T	1.000 <T	1.000 <T	.500 <T	1.000 <T	1.000 <T
NOV	2.500	.500 <T	1.000 <T	1.000 <T	.500 <T	1.500 <T	.500 <T	1.000 <T	1.000 <T	1.000 <T
DEC	2.500	.500 <T	1.000 <T	1.15	.	.	1.500 <T	1.500 <T	1.500 <T	1.500 <T

CONDUCTIVITY (UMHO/CM)			DET'M LIMIT = 1		GUIDELINE = 400. (F2)					
JAN	377	385	377	386	379	378	381	386	382	382
FEB	371	374	374	375	369	369	378	377	372	372
MAR	366	382	379	381	.	.	366	366	385	383
APR	382	401	413	412	387	395	390	387	423	422
MAY	354	357	345	360	361	358	.	.	360	362
JUN	333	340	335	334	363	328	344	342	343	343
JUL	331	338	345	346	333	332	343	341	346	345
AUG	323	331	334	333	330	331	333	332	336	331
SEP	321	330	325	326	333	328	.	.	332	334
OCT	326	332	336	334	337	334	338	334	339	339
NOV	333	339	336	341	350	346	338	346	339	338
DEC	338	345	349	349	.	.	353	350	362	361

FLUORIDE (MG/L)			DET'M LIMIT = .01		GUIDELINE = 2.400 (A1)					
JAN	.150	1.100	1.210	1.010	1.000	1.030	1.000	1.000	1.080	1.050
FEB	.140	.920	.860	.850	.870	.900	.920	.940	.870	.920
MAR	.160	.900	.880	.880	.	.	.980	.940	.870	.800
APR	.170	1.060	1.040	1.060	1.050	1.100	1.060	1.060	1.090	1.050

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.160	1.170	1.150	1.160	1.050	1.050	.	.	1.110	1.110
JUN	.120	.820	1.010	1.010	.950	.920	.930	.860	.930	.890
JUL	.150	1.220	1.170	1.170	1.180	1.180	1.100	1.080	1.180	1.180
AUG	.140	1.300	1.310	1.340	.910	.870	.520 RVU	.520 RVU	.990	1.1A
SEP	.120	1.340	1.360	1.380	1.200	1.200	.	.	1.200	1.220
OCT	.120	1.220	1.260	1.200	1.160	1.160	1.200	1.160	1.120	1.120
NOV	.140	1.060	.540	.440	.820	.900	.900	.880	1.100	.940
DEC	.140	1.000	.960	.920	.	.	1.060	1.100	.940	.940
<hr/>										
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)					
JAN	141.500	143.500	142.500	142.000	113.500	145.000	142.500	145.000	146.000	144.500
FEB	140.000	141.500	143.500	138.500	125.000	140.000	140.500	141.000	141.000	141.500
MAR	137.500	140.500	140.000	140.500	.	.	139.500	140.500	146.500	147.000
APR	142.500	144.000	147.000	146.500	140.000	146.000	142.000	142.000	150.000	152.500
MAY	135.000	140.500	137.500	137.500	114.000	135.500	.	.	137.000	138.000
JUN	130.000	132.000	128.000	128.000	132.000	134.000	130.000	133.000	129.000	135.000
JUL	130.000	130.000	133.000	133.000	133.000	134.000	131.000	133.000	133.000	135.000
AUG	133.000	135.000	136.000	138.000	131.000	134.000	133.000	132.000	135.000	140.000
SEP	131.000	130.000	130.000	130.000	112.000	139.000	.	.	140.000	141.000
OCT	136.000	136.000	137.000	141.000	112.000	134.000	138.000	138.000	140.000	138.000
NOV	139.000	138.000	137.000	141.000	138.000	139.000	140.000	141.000	140.000	139.000
DEC	135.000	139.000	141.000	139.000	.	.	140.000	138.000	144.000	146.000
<hr/>										
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30. (F2)					
JAN	8.500	8.650	8.550	8.700	7.100	8.600	8.850	8.750	8.750	8.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

RAW

TREATED

SITE1

SITE2

SITE3

SITE4

TYPE

STANDING

FREE FLOW

STANDING

FREE FLOW

STANDING

FREE FLOW

STANDING

FREE FLOW

FEB	9.050	9.100	9.100	8.700	7.750	8.700	8.750	8.850	8.750	8.650
MAR	8.500	8.500	8.600	8.800	.	.	8.500	8.600	8.900	8.700
APR	8.800	8.700	8.900	8.900	8.500	8.900	8.600	8.500	9.300	8.900
MAY	8.600	8.600	9.000	8.600	7.200	8.600	.	.	8.400	8.400
JUN	8.200	8.200	8.000	8.000	8.400	8.300	8.100	8.200	8.000	8.400
JUL	8.100	8.100	8.000	8.200	8.300	8.500	8.300	7.900	7.800	7.800
AUG	8.400	8.400	8.400	8.500	8.200	8.600	8.200	8.200	8.100	8.000
SEP	8.600	8.500	8.500	8.500	7.200	8.700	.	.	8.800	8.700
OCT	8.500	8.600	8.700	8.800	7.000	8.400	8.600	8.400	8.500	8.400
NOV	8.900	8.700	8.700	8.800	8.600	8.500	8.500	8.700	8.600	8.300
DEC	8.400	8.700	8.800	8.700	.	.	8.500	8.600	8.800	8.500

SODIUM (MG/L)

DET'N LIMIT = .200

GUIDELINE = 200. (C3)

JAN	17.800	17.900	17.200	17.300	29.500	16.900	16.800	17.400	17.200	16.700
FEB	18.900	18.800	19.600	19.900	23.900	17.300	18.400	18.700	17.400	17.800
MAR	20.600	20.200	19.600	19.900	.	.	18.800	19.000	22.100	21.800
APR	19.700	20.700	22.500	22.000	18.700	18.500	18.600	18.900	21.900	21.800
MAY	14.400	14.300	14.200	14.100	24.600	13.900	.	.	13.600	13.900
JUN	13.000	13.000	13.000	13.400	13.200	12.800	14.000	13.800	13.400	14.400
JUL	12.800	12.800	13.200	13.000	14.000	13.200	13.800	13.600	12.000	11.800
AUG	12.400	12.400	12.400	12.800	13.600	12.400	12.800	13.200	12.200	13.600
SEP	13.200	13.200	13.200	13.200	24.800	13.600	.	.	13.800	14.000
OCT	12.600	12.800	13.000	13.000	24.800	12.600	12.400	12.800	12.800	12.800
NOV	13.400	13.000	12.800	13.400	15.200	13.600	13.200	14.400	12.800	13.200
DEC	14.000	14.600	14.400	14.400	.	.	14.600	14.400	15.800	15.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW

AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)					
JAN	.026	.098	BDL	BDL	.216	.154	BDL	BDL	.128	.146
FEB	.024	.006 <T	.004 <T	.002 <T	.050	.030	.128	.136	.050	.058
MAR	.060	.118	.110	.146	.	.	.048	.030	.102	.100
APR	.052	.118	.040	.064	.180	.096	.010	.006 <T	.150	.148
MAY	.208	.006 <T	.086	.120	.214	.128	.	.	.106	.126
JUN	.004 <T	.090	.004 <T	.006 <T	.148	.144	.046	.034	.008 <T	.070
JUL	.062	.178	.124	.200 RVU	.144	.144	.040	.054	.158	.158
AUG	.022	.176	.022	.106	.154	.138	.028	.034	.082	.004 UAL
SEP	.154	.006 <T	.046	.118	.144	.064	.	.	.072	.098
OCT	.018	.076	.148	.142	.170	.110	.110	.110	.068	.072
NOV	.102	.150	.054	.010	.126	.056	.070	.074	.060	.056
DEC	.088	.074	.122	.090	.	.	.100	.058	.056	.058

NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)					
JAN	.002 <T	BDL	.024	BDL	.012	.006	BDL	BDL	.014	.007
FEB	.004 <T	.001 <T	.003 <T	.006	.003 <T	.001 <T	.004 <T	.002 <T	.004 <T	.002 <T
MAR	.019	.002 <T	.055	.012	.	.	.003 <T	.002 <T	.012	.002 <T
APR	.018	.003 <T	.048	.032	.008	.003 <T	.003 <T	.002 <T	.018	.003 <T
MAY	.010	BDL	.077	.031	.007	.003 <T	.	.	.013	.001 <T
JUN	.038	.002 <T	.002 <T	.002 <T	.008	.006	.004 <T	.002 <T	.135	.024
JUL	.015	.001 <T	.076	.052	.009	.005	.002 <T	.002 <T	.007	.005
AUG	.002 <T	BDL	.137	.031	.008	.003 <T	.004 <T	.002 <T	.008	.119 UAL
SEP	.026	.001 <T	.091	.013	.003 <T	.002 <T	.	.	.039	.004 <T
OCT	.003 <T	.002 <T	.019	.003 <T	.008	.003 <T	.004 <T	.002 <T	.006	.005
NOV	.007	BDL	.002 <T	.001 <T	.004 <T	.008	.015	BDL	.009	.003 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	.009	BDL	.008	BDL	.	.	.010	.009	.028	.013
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)					
JAN	.335	.330	.350	.340	.860	.575	.305	.370	.600	.585
FEB	.470	.465	.455	.455	.490	.470	.480	.480	.480	.480
MAR	.505	.500	.525	.495	.	.	.485	.485	.585	.565
APR	.555	.525	.505	.500	.770	.470	.475	.470	.480	.470
MAY	.395	.380	.455	.425	.725	.400	.	.	.440	.380
JUN	.410	.330	.485	.485	.395	.350	.330	.330	.475	.360
JUL	.290	.270	.440	.405	.295	.275	.280	.285	.320	.315
AUG	.245	.245	.405	.280	.220	.220	.230	.220	.255	.360 UAL
SEP	.415	.300	.395	.310	.485	.250	.	.	.330	.305
OCT	.415	.415	.420	.410	.585	.410	.405	.395	.410	.400
NOV	.440	.420	.400	.430	.535	.420	.415	.420	.405	.405
DEC	.495	.495	.515	.490	.	.	.625	.445	.485	.545
NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A					
JAN	.220	.490	.170	.150	.400	.280	.190	.240	.270	.370
FEB	.360	.240	.280	.250	.300	3.050	.370	.380	.290	.310
MAR	.360	.260	.390	.320	.	.	.210	.200	.260	.260
APR	.440	.260	.200	.220	.330	.260	.180	.120	.260	.290
MAY	.220	.160	.190	.160	.400	.300	.	.	.190	.280
JUN	.260	.190	.130	.130	.280	.250	.200	.150	.280	.180
JUL	.210	.320	.150	.180	.270	.250	.220	.250	.200	.150
AUG	.100	ICR	.120	.160	.250	.220	.140	.160	.090 <1	.210

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	.210	.870	.160	.210	.410	.220	.	.	.210	.180
OCT	.200	.210	.240	.180	.280	.230	.180	.180	.140	.150
NOV	.370	.280	.230	.170	.310	.520	.230	.250	.250	.210
DEC	.320	.240	.350	.270	.	.	.460	.150	.280	.280
PH (DMSNLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)					
JAN	8.340	8.100	8.210	8.130	8.280	8.110	8.190	8.140	8.300	8.200
FEB	8.280	7.940	8.070	8.090	8.010	7.990	8.090	8.110	7.970	8.080
MAR	8.220	7.840	7.980	7.910	.	.	8.050	8.010	7.990	7.860
APR	8.170	8.000	8.000	8.160	8.060	7.980	8.020	7.990	8.030	8.100
MAY	8.310	8.270	8.280	8.280	8.220	8.210	.	.	8.230	8.240
JUN	8.330	8.040	8.070	8.030	8.350	8.340	8.020	8.050	8.120	8.060
JUL	8.390	8.290	8.290	8.280	7.930	8.080	8.330	8.330	8.310	8.300
AUG	8.480	8.000	8.070	8.080	7.960	7.910	8.140	8.180	8.130	8.230
SEP	8.230	7.960	7.960	7.980	8.050	8.050	.	.	8.130	8.020
OCT	8.220	8.020	8.020	7.970	8.230	8.200	8.130	8.040	8.110	8.120
NOV	8.260	8.210	8.220	8.210	8.190	8.130	8.100	8.140	8.230	8.220
DEC	8.190	7.970	8.020	7.950	.	.	8.140	8.140	8.190	8.120
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .5UG/L		GUIDELINE = N/A					
JAN	.005	BDL	.	.	.	.	.	.	.	.
FEB	.004	.001 <T	.	.	.	.	.	.	.	.
MAR	.019	.000 <T	.	.	.	.	.	.	.	.
APR	.018	.000 <T	.	.	.	.	.	.	.	.
MAY	.002 <T	.001 <T	.	.	.	.	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	.009	.001 <T	*	*	*	*	*	*	*	*
JUL	.007	.001 <T	*	*	*	*	*	*	*	*
AUG	.004	BDL	*	*	*	*	*	*	*	*
SEP	.007	BDL	*	*	*	*	*	*	*	*
OCT	.005	.000 <T	*	*	*	*	*	*	*	*
NOV	.009	.000 <T	*	*	*	*	*	*	*	*
DEC	.006	.001 <T	*	*	*	*	*	*	*	*

PHOSPHORUS TTL-UNFIL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)					
JAN	.026	.009 <T	*	*	*	*	*	*	*	*
FEB	.018	BDL	*	*	*	*	*	*	*	*
MAR	.041	BDL	*	*	*	*	*	*	*	*
APR	.101	.007 <T	*	*	*	*	*	*	*	*
MAY	.017	.005	*	*	*	*	*	*	*	*
JUN	.016	.003 <T	*	*	*	*	*	*	*	*
JUL	.015	.002 <T	*	*	*	*	*	*	*	*
AUG	BDL	BDL	*	*	*	*	*	*	*	*
SEP	.017	BDL	*	*	*	*	*	*	*	*
OCT	.007 <T	BDL	*	*	*	*	*	*	*	*
NOV	.027	.002 <T	*	*	*	*	*	*	*	*
DEC	.016	.005 <T	*	*	*	*	*	*	*	*

RESIDUE (TOTAL) (MG/L)			DET'N LIMIT = 1.		GUIDELINE = 500. (A3)					
JAN	226	250 CRO	245 CRO	251 CRO	246 CRO	246 CRO	248 CRO	251 CRO	248 CRO	248 CRO
FEB	241 CRO	243 CRO	243 CRO	244 CRO	240 CRO	240 CRO	246 CRO	246 CRO	242 CRO	242 CRO

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	253	244 CRO	242 CRO	243 CRO	.	.	238 CRO	238 CRO	250 CRO	249 CRO
APR	284	232	236	242	252 CRO	257 CRO	254 CRO	252 CRO	259	256
MAY	230 CRO	232 CRO	224 CRO	234 CRO	235 CRO	233 CRO	.	.	234 CRO	235 CRO
JUN	216 CRO	221 CRO	217 CRO	217 CRO	236 CRO	213 CRO	223 CRO	222 CRO	223 CRO	223 CRO
JUL	215 CRO	220 CRO	224 CRO	225 CRO	216 CRO	216 CRO	223 CRO	222 CRO	225 CRO	224 CRO
AUG	210 CRO	215 CRO	217 CRO	216 CRO	215 CRO	215 CRO	216 CRO	518 CRO	342 CRO	215 CRO
SEP	209 CRO	215 CRO	211 CRO	212 CRO	216 CRO	213 CRO	.	.	216 CRO	217 CRO
OCT	312 CRO	216 CRO	284 CRO	217 CRO	219 CRO	217 CRO	220 CRO	217 CRO	220 CRO	220 CRO
NOV	216 CRO	220 CRO	218 CRO	222 CRO	228 CRO	225 CRO	220 CRO	225 CRO	220 CRO	220 CRO
DEC	220 CRO	224 CRO	227 CRO	227 CRO	.	.	229 CRO	228 CRO	235 CRO	235 CRO
TURBIDITY (FTU)										
			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)					
JAN	5.700	.450	1.780	1.450	.270	.210	.460	.720	.460	.230
FEB	4.000	.380	.720	2.000	.220	.180	.460	.310	.190	.240
MAR	11	.900	3.300	2.200	.	.	.160	.190	.200	.200
APR	58.000	.260	2.500	2.000	.590	.680	.300	.330	.200	.240
MAY	1.660	.210	.950	1.000	.310	.210	.	.	.210	.180
JUN	1.350	.220	3.000	3.000	.300	.180	.260	.250	.490	.290
JUL	1.060	.170	.580	.520	.160	.140	.160	.200	.160	.150
AUG	1.720	.090	.620	1.130	.250	.140	.250	.180	.170	.330
SEP	4.700	.290	.420	.530	.500	.350	.	.	.370	.340
OCT	1.200	.110	.220	.130	.080 <T	.030 <T	.150	.050 <T	.070 <T	.060 <T
NOV	3.500	.150	.290	.110	.110	13.300	.150	.110	.230	.060 <T
DEC	1.980	.060	.160	.060	.	.	.240	.130	.320	.100

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
METALS										
ALUMINUM (MG/L)	DET'N LIMIT = .004		GUIDELINE = .10		(A4)					
JAN	.170	.100	.120	.110	.084	.088	.110	.110	.086	.082
FEB	.088	.049	.046	.044	.046	.057	.067	.066	.050	.049
MAR	.690	.029	.022	.024	.	.	.049	.049	.040	.037
APR	1.500	.075	.080	.077	.047	.056	.066	.057	.046	.057
MAY	.029	.095	.064	.079	.085	.110	.	.	.083	.079
JUN	.006	.068	.050	.051	.080	.069	.110	.110	.080	.076
JUL	.020	.120	.072	.065	.130	.140	.200	.180	.084	.095
AUG	.084	.130	.096	.100	.140	.180	.300	.320	.180	.170
SEP	.190	.110	.150	.150	.130	.160	.	.	.160	.150
OCT	.013	.052	.045	.059	.063	.056	.068	.059	.059	.065
NOV	.130	.052	.062	.059	.063	1.700	.081	.077	.071	.067
DEC	.049	.044	.060	.038	.	.	.077	.070	.065	.046
ARSENIC (MG/L)										
DET'N LIMIT = 0.001		GUIDELINE = .050		(A1)						
APR	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MAY	BDL	BDL	BDL	BDL	BDL	BDL	.	.	BDL	BDL
JUN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL	.	.	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	.003	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.	.	BDL	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
BARIUM (MG/L)			DET'N LIMIT = N/A		GUIDELINE = 1.000 (A1)					
JAN	.023	.023	.021	.021	.017	.021	.022	.023	.022	.020
FEB	.021	.019	.020	.018	.016	.019	.019	.019	.019	.018
MAR	.026	.022	.023	.023	.	.	.021	.021	.023	.022
APR	.028	.021	.022	.022	.020	.021	.022	.021	.026	.023
MAY	.018	.019	.021	.020	.016	.019	.	.	.020	.020
JUN	.021	.021	.020	.020	.020	.020	.021	.021	.022	.022
JUL	.022	.022	.023	.023	.022	.022	.022	.022	.025	.023
AUG	.020	.019	.021	.019	.018	.020	.020	.020	.020	.020
SEP	.021	.021	.021	.021	.017	.021	.	.	.022	.021
OCT	.017	.017	.020	.017	.014	.018	.018	.018	.018	.017
NOV	.017	.017	.017	.017	.017	.018	.017	.017	.017	.016
DEC	.019	.018	.020	.018	.	.	.018	.018	.019	.018
BORON (MG/L)			DET'N LIMIT = 0.01		GUIDELINE = 5.000 (A1)					
JAN	.040	.040	.040	.040	.040	.030	.040	.040	.040	.040
FEB	.030	.030	.040	.030	.030	.030	.040	.030	.040	.030
MAR	.050	.040	.040	.030	.	.	.040	.030	.040	.040
APR	.030	.030	.030	.030	.040	.030	.020	.030	.050	.020
MAY	.020 <T	.030 <T	.020 <T	.020 <T	.020 <T	.010 <T	.	.	.020 <T	.020 <T
JUN	.040 <T	.040 <T	.020 <T	.030 <T	.040 <T	.030 <T	.050 <T	.040 <T	.030 <T	.040 <T
JUL	.020 <T	.020 <T	.020 <T	.030 <T	.010 <T	.010 <T	.010 <T	.020 <T	.010 <T	.010 <T
AUG	.020 <T	.020 <T	.030 <T	.020 <T	.030 <T	.030 <T	.030 <T	.030 <T	.030 <T	.020 <T
SEP	.040 <T	.030 <T	.040 <T	.030 <T	.030 <T	.030 <T	.	.	.030 <T	.030 <T
OCT	.030 <T	.030 <T	.030 <T	.030 <T	.030 <T	.020 <T	.040 <T	.020 <T	.020 <T	.030 <T
NOV	.040	.040 <T	.050	.040 <T	.040	.040	.040 <T	.050	.030 <T	.030 <T

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

[illegible]

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	BDL	BDL	BDL	BDL	BDL	BDL	.	.	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.	.	BDL	BDL	.001	BDL
CHROMIUM (MG/L)										
			DET'N LIMIT = 0.001		GUIDELINE = .05 (A1)					
JAN	.001	.001	BDL	BDL	.001	BDL	.001	BDL	BDL	.001
FEB	.002	.001	.001	BDL	.001	BDL	BDL	BDL	BDL	BDL
MAR	.002	BDL	BDL	BDL	.	.	.001	BDL	BDL	BDL
APR	.003	BDL	BDL	BDL	BDL	.001	BDL	.001	.001	BDL
MAY	.001	BDL	BDL	.001	.029	BDL	.	.	BDL	BDL
JUN	.001	BDL	BDL	BDL	.005	BDL	.001	.001	.001	.001
JUL	BDL	BDL	BDL	BDL	.001	BDL	BDL	BDL	BDL	.001
AUG	.001	BDL	.001	BDL	.001	BDL	.001	BDL	.001	.001
SEP	.001	BDL	BDL	.001	.001	.001	.	.	BDL	.001
OCT	.002	.002	.002	.002	.022	.002	.002	.002	.002	.002
NOV	.004	.002	.002	.002	.002	.003	.002	.002	.002	.002
DEC	.002	.002	.002	.002	.	.	.002	.002	.002	.002
COPPER (MG/L)										
			DET'N LIMIT = .001		GUIDELINE = 1.0 (A3)					
JAN	.062	.003	.047	.014	.067	.014	.059	.006	.100	.008
FEB	.064	.003	.081	.011	.054	.009	.034	.002	.034	.005
MAR	.097	.003	.039	.013	.	.	.020	.009	.100	.028
APR	.150	.003	.033	.012	.088	.022	.014	.004	.320	.011
MAY	.033	.002	.054	.012	.092	.020	.	.	.047	.009

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1	SITE2		SITE3		SITE4		
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	.033	.003	.024	.010	.032	.012	.012	.002	.054	.008
JUL	.034	.002	.031	.014	.041	.008	.010	.002	.074	.021
AUG	.055	.002	.051	.013	.060	.011	.012	.004	.034	.016
SEP	.080	.002	.020	.012	.055	.014	.	.	.033	.019
OCT	.070	.002	.089	.017	.066	.013	.020	.003	.055	.009
NOV	.076	.002	.062	.016	.041	.014	.034	.003	.040	.011
DEC	.078	.002	.130	.029	.	.	.014	.004	.140	.008
<hr/>										
IRON (MG/L)	DET'M LIMIT = .002		GUIDELINE = .300 (A3)							
JAN	.190	.014	.430	.350	.027	.006	.016	.014	.024	.017
FEB	.098	.002	.190	.400	.004	.005	.012	.038	.010	.012
MAR	1.200	.004	.460	.360	.	.	.012	.008	.010	.011
APR	2.000	.007	.510	.370	.130	.008	.010	.008	.013	.014
MAY	.047	.007	.280	.310	.033	.008	.	.	.023	.011
JUN	.046	.005	.710	.730	.011	.003	.007	.012	.026	.016
JUL	.060	BDL	.200	.210	BDL	BDL	.031	.032	.010	.009
AUG	.090	.025	.150	.260	BDL	BDL	.015	.004	.013	.027
SEP	.270	.006	.120	.130	.010	BDL	.	.	.026	.042
OCT	.014	BDL	.014	BDL	BDL	.009	BDL	BDL	.005	.009
NOV	.170	BDL	BDL	BDL	BDL	.750	BDL	.003	.006	BDL
DEC	.060	.003	.006	.010	.	.	.011	.013	.021	.012
<hr/>										
MERCURY (UG/L)	DET'M LIMIT = 0.010		GUIDELINE = 1.000 (A1)							
JAN	.020	.020	.	.040	.	.030	.	.060	.	.040
FEB	.030	.040	.	.040	.	.040	.	.040	.	.030

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

[illegible]

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	BDL	.001	BDL	BDL	BDL	.001	.001	.001	.001	.001
FEB	.001	.001	BDL	BDL	.001	.001	.001	BDL	.001	.001
MAR	BDL	.001	BDL	BDL	.	.	.001	.001	BDL	BDL
APR	BDL	.001	BDL	BDL	BDL	.001	.001	.001	.001	.001
MAY	.001	.001	BDL	BDL	.001	.001	.	.	.001	.001
JUN	.001	.001	BDL	BDL	.001	.001	.001	.001	.001	.001
JUL	.001	.001	.001	BDL	.001	.001	.001	.001	.001	.001
AUG	BDL	.001	BDL	BDL	.001	.001	.001	.001	.001	BDL
SEP	BDL	.001	BDL	BDL	.001	.001	.	.	.001	.001
OCT	.001	BDL	.001	.001	BDL	.001	.001	.002	BDL	.002
NOV	BDL	.001	BDL	.001	.001	BDL	.001	.002	BDL	.001
DEC	.002	.001	.002	.002	.	.	.001	.002	.002	.002

NICKEL (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = .05 (F3)					
JAN	.003	.003	.004	.002	.046	.004	.004	.002	.006	.002
FEB	.002	.002	.003	.002	.063	BDL	.002	.002	.002	.002
MAR	.002	BDL	.002	BDL	.	.	.003	.002	.003	.002
APR	.003	.002	.003	.002	.330	.002	.002	.002	.004	.003
MAY	.006	.004	.004	.003	.360	.003	.	.	.004	.002
JUN	BDL	BDL	.004	BDL	.071	.002	BDL	BDL	.003	BDL
JUL	.002	.002	.005	.002	.018	BDL	.002	BDL	.004	.002
AUG	BDL	BDL	.006	BDL	.008	.003	.003	.002	BDL	BDL
SEP	.002	.002	.003	BDL	.100	.003	.	.	.003	.002
OCT	.002	.001	.003	.002	.094	.008	.003	.002	.002	.002
NOV	.003	.003	.002	.003	.220	.004	.003	.003	.003	.002
DEC	.003	.003	.003	.003	.	.	.003	.003	.003	.003

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

[illegible]

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	.160	.160	.170	.160	.	.	.160	.160	.170	.170
URANIUM (UG/L)			DET'N LIMIT =		GUIDELINE = 20. (A2)					
JAN	.460	.460	.350	.360	.440	.410	.400	.460	.390	.410
FEB	.420	.410	.350	.350	.420	.420	.410	.410	.400	.410
MAR	.360	.170	.230	.210	.	.	.260	.270	.270	.260
APR	.360	.250	.230	.260	.380	.280	.300	.290	.250	.260
MAY	.360 <T	.390 <T	.320 <T	.340 <T	.440 <T	.390 <T	.	.	.370 <T	.360 <T
JUN	.320	.340	.340	.350	.390	.340	.360	.360	.320	.350
JUL	.290	.280	.220	.220	.420	.310	.310	.300	.280	.290
AUG	.390	.310	.350	.320	.370	.340	.360	.370	.360	.340
SEP	.430	.340	.420	.430	.420	.400	.	.	.390	.380
OCT	.380	.330	.280	.320	.400	.360	.350	.340	.310	.320
NOV	.440	.360	.400	.380	.440	.540	.430	.390	.390	.420
DEC	.380	.360	.320	.330	.	.	.360	.370	.320	.360
VANADIUM (MG/L)			DET'N LIMIT = .001		GUIDELINE = .10 (H)					
JAN	.001	BDL	BDL	BDL	BDL	BDL	.001	.001	BDL	.001
FEB	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MAR	.002	BDL	BDL	BDL	.	.	.001	BDL	BDL	BDL
APR	.003	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MAY	BDL	BDL	BDL	BDL	BDL	BDL	.	.	BDL	BDL
JUN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	.001	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	.001	.001	BDL	BDL	BDL	.001

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	BDL	.001	BDL	BDL	.001	.001	.	.	BDL	BDL
OCT	.001	BDL	BDL	BDL	BDL	BDL	.001	.002	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	.001	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	.	.	BDL	BDL	BDL	BDL
ZINC (MG/L)										
DET'N LIMIT = .001			GUIDELINE = 5.00 (A3)							
JAN	.002	BDL	.002	.001	.025	.001	.050	.001	.084	.002
FEB	.003	.002	.008	.003	.019	.003	.040	.001	.027	.009
MAR	.012	.002	.007	.004	.	.	.014	.004	.038	.004
APR	.021	.005	.007	.004	.021	.006	.029	.003	.015	.003
MAY	.004	.005	.005	.004	.031	.002	.	.	.047	.002
JUN	.006	.002	.005	.004	.004	.002	.019	.007	.017	.002
JUL	.003	.002	.012	BDL	.022	.001	.035	BDL	BDL	.013
AUG	.002	.001	.005	.002	.021	.001	.016	.003	.005	.009
SEP	.002	BDL	.004	BDL	.019	BDL	.	.	.057	BDL
OCT	.003	BDL	.006	.003	.027	.004	.035	BDL	.026	.004
NOV	.005	.003	.005	BDL	.012	.011	.028	.003	.062	.006
DEC	.003	BDL	.018	.003	.	.	.008	.003	.010	.002

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

RAW

TREATED

SITE1

SITE2

SITE3

SITE4

TYPE

STANDING

FREE FLOW

STANDING

FREE FLOW

STANDING

FREE FLOW

STANDING

FREE FLOW

CHLOROAROMATICS

123 TRICHLOROBENZENE (NG/L)

DET'N LIMIT = 5.000

GUIDELINE = 10000. (1)

JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	23.000 <T	.	BDL	.	16.000 <T	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL

1235 T-CHLOROBENZENE (NG/L)

DET'N LIMIT = 1.000

GUIDELINE = 10000. (1)

JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	3.000 <T	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
124 TRICHLOROBENZENE (NG/L)			DET'N LIMIT = 5.000		GUIDELINE = 10000. (1)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	6.000 <T	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
135 TRICHLOROBENZENE (NG/L)			DET'N LIMIT = 5.000		GUIDELINE = 10000. (D4)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	BDL	BDL	.	6.000 <T	.	6.000 <T	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
HEXACHLOROETHANE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 1900. (D4)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	3.000 <T	.	BDL	.	BDL	.	1.000 <T	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	4.000 <T	.	BDL	.	BDL	.	1.000 <T	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	4.000 <T
AUG	BDL	BDL	.	BDL	.	2.000 <T	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
PENTACHLOROBENZENE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 74000. (D4)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	1.000 <T	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
236 TRICHLOROTOLUENE (NG/L)			DET'N LIMIT = 5.000		GUIDELINE = N/A					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	9.000 <T	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
245 TRICHLOROTOLUENE (NG/L)			DET'N LIMIT = 5.000		GUIDELINE = N/A					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	11.000 <1	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB										
ALPHA BHC (NG/L)	DET'N LIMIT = 1.000		GUIDELINE = 700. (G)							
JAN	3.000 <T	2.000 <T	.	2.000 <T	.	3.000 <T	.	2.000 <T	.	3.000 <T
FEB	2.000 <T	2.000 <T	.	3.000 <T	.	2.000 <T	.	3.000 <T	.	BDL
MAR	3.000 <T	3.000 <T	.	3.000 <T	.	.	.	3.000 <T	.	1.000 <T
APR	2.000 <T	2.000 <T	.	1.000 <T	.	2.000 <T	.	2.000 <T	.	2.000 <T
MAY	1.000 <T	1.000 <T	.	BDL	.	1.000 <T	.	.	.	1.000 <T
JUN	1.000 <T	3.000 <T	.	2.000 <T	.	3.000 <T	.	2.000 <T	.	2.000 <T
JUL	2.000 <T	2.000 <T	.	1.000 <T	.	2.000 <T	.	2.000 <T	.	1.000 <T
AUG	BDL	BDL	.	2.000 <T	.	2.000 <T	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	3.000 <T	.	.	.	BDL
OCT	3.000 <T	BDL	.	3.000 <T	.	BDL	.	BDL	.	BDL
NOV	2.000 <T	2.000 <T	.	2.000 <T	.	BDL	.	1.000 <T	.	2.000 <T
DEC	4.000 <T	3.000 <T	.	3.000 <T	.	.	.	3.000 <T	.	3.000 <T
BETA BHC (NG/L)										
DET'N LIMIT = 1.000		GUIDELINE = 300. (G)								
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	1.000 <T	.	BDL	.	BDL	.	1.000 <T	.	3.000 <T
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
LINDANE (NG/L)	DET'N LIMIT = 1.000		GUIDELINE = 4000.0 (A1)							
JAN	BDL	BDL	.	BDL	.	2.000 <T	.	BDL	.	2.000 <T
FEB	BDL	BDL	.	1.000 <T	.	1.000 <T	.	1.000 <T	.	BDL
MAR	BDL	2.000 <T	.	4.000 <T	.	.	.	BDL	.	BDL
APR	2.000 <T	2.000 <T	.	2.000 <T	.	1.000 <T	.	BDL	.	10.000 <T
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	1.000 <T	.	BDL	.	1.000 <T	.	BDL	.	BDL
JUL	BDL	BDL	.	1.000 <T	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	1.000 <T	.	BDL	.	BDL	.	BDL	.	BDL
DEC	2.000 <T	2.000 <T	.	1.000 <T	.	.	.	2.000 <T	.	1.000 <T
<hr/>										
ATRATONE (NG/L)	DET'N LIMIT = 50.		GUIDELINE = N/A							
JAN	BDL	BDL	.	BDL	.	360.000 <T	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	ILA	.	ISM	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
<hr/>										
PHENOLICS										
PHENOL (UG/L)	DET'N LIMIT = N/A		GUIDELINE = 2.00 (A3)							
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	.	.	.	.	.	.	.
MAR	BDL	BDL	.	.	.	.	.	.	.	.
APR	.400 <T	.400 <T	.	.	.	.	.	.	.	.
MAY	7.400 CIC	.600 CIC	.	.	.	.	.	.	.	.
JUN	.400 <T	.400 <T	.	.	.	.	.	.	.	.
JUL	.400 <T	.200 <T	.	.	.	.	.	.	.	.
AUG	BDL	BDL	.	.	.	.	.	.	.	.
SEP	BDL	BDL	.	.	.	.	.	.	.	.
OCT	BDL	BDL	.	.	.	.	.	.	.	.
NOV	BDL	BDL	.	.	.	.	.	.	.	.
DEC	BDL	BDL	.	.	.	.	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
SPECIFIC PESTICIDES										
BLADEX (NG/L)	DET'N LIMIT = 100.00		GUIDELINE = 10000. (B3)							
JAN	BDL	BDL	.	BDL	.	630.000 <T	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	ILA	.	ISM	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
PROMETONE (NG/L)										
DET'N LIMIT = 50.00		GUIDELINE = 52500. (D3)								
JAN	BDL	BDL	.	BDL	.	200.000 <T	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	ILA	.	ISM	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
SIMAZINE (NG/L)	DET'N LIMIT = 50.00		GUIDELINE = 10000. (B3)							
JAN	BDL	BDL	.	BDL	.	130.000 <T	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	TLA	.	ISM	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES										
BENZENE (UG/L)			DET'N LIMIT = 0		GUIDELINE = 5.0		(01)			
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	.100 <T	.	BDL
SEP	BDL	BDL	.	.100 <T	.	.200 <T	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	.050 <T	.	.050 <T	.	BDL	.	BDL
DEC	BDL	BDL	.	2.300	.	.	.	.600	.	.050 <T
TOLUENE (UG/L)										
			DET'N LIMIT = 0		GUIDELINE = 100.0		(G)			
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	.450 <T	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	.000 APS	.	.200 <T	.	.250 <T	.	.	.	.000 APS
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT				DISTRIBUTION SYSTEM							
SITE		RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
TYPE				STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
NOV		.100 <T	.200 <T	.	.150 <T	.	.100 <T	.	BDL	.	.100 <T
DEC		.050 UCS	.100 UCS	.	.050 UCS	.	.	.	.150 UCS	.	.100 UCS
ETHYLBENZENE (UG/L)		DET'N LIMIT = 0				GUIDELINE = 3400. (D3)					
JAN		BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB		BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR		BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR		BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY		BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN		BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL		BDL	.200 <T	.	.150 <T	.	.200 <T	.	.150 <T	.	.300 <T
AUG		BDL	BDL	.	.100 <T	.	BDL	.	.150 <T	.	BDL
SEP		BDL	.100 <T	.	.100 <T	.	BDL	.	.	.	.100 <T
OCT		BDL	BDL	.	BDL	.	BDL	.	.100 <T	.	BDL
NOV		BDL	.050 <T	.	BDL	.	BDL	.	BDL	.	.100 <T
DEC		BDL	BDL	.	BDL	.	.	.	.050 <T	.	.050 <T
P-XYLENE (UG/L)		DET'N LIMIT = 0				GUIDELINE = 620. (G)					
JAN		BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB		BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR		BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR		BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY		BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN		BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL		BDL	.000 RMP	.	BDL	.	.000 RMP	.	.000 RMP	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	BDL	BDL	.	BDL	.	BDL	.	.000 RMP	.	BDL
SEP	BDL	BDL	.	.000 RMP	.	.000 RMP	.	.	.	.000 RMP
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	.000 RMP	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
M-XYLENE (UG/L)	DET'N LIMIT = 0		GUIDELINE = 620. (G)							
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	.300 RMP	.	BDL	.	.200 RMP	.	.200 RMP	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	.200 <T	.	BDL
SEP	BDL	BDL	.	.200 <T	.	.200 <T	.	.	.	.200 <T
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	.100 <T	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
O-XYLENE (UG/L)	DET'N LIMIT = 0		GUIDELINE = 620. (G)							
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	.100 <T	.	BDL
SEP	BDL	BDL	.	.100 <T	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	.100 <T	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	.050 <T	.	BDL
<hr/>										
1,1 DICHLOROETHYLENE (UG/L)			DET'N LIMIT = 0		GUIDELINE = 7.0 (D1)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	.000 APS	.	.	.	.000 APS	.	.000 APS
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
<hr/>										
T1,2 DICHLOROETHYLENE (UG/L)			DET'N LIMIT = 0		GUIDELINE = 350. (D3)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	.000 APS	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
1,1 DICHLOROETHANE (UG/L)			DET'N LIMIT = 0		GUIDELINE = N/A					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	.000 APS	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
CHLOROFORM (UG/L)			DET'N LIMIT = 0		GUIDELINE = 350.0 (A1+)					
JAN	BDL	10.000	.	10.000	.	9.000	.	10.000	.	9.000
FEB	BDL	9.000	.	8.000	.	8.000	.	7.000	.	8.000
MAR	BDL	10.000	.	12.000	.	.	.	11.000	.	14.000
APR	BDL	13.000	.	13.000	.	13.000	.	20.000	.	15.000
MAY	BDL	16.500	.	10.200	.	9.600	.	.	.	8.700
JUN	BDL	10.000	.	9.000	.	9.000	.	11.000	.	10.000
JUL	BDL	11.000	.	10.000	.	18.000	.	19.000	.	12.000
AUG	BDL	16.600	.	16.400	.	18.200	.	18.300	.	20.500
SEP	BDL	19.400	.	13.600	.	17.000	.	.	.	15.800
OCT	BDL	8.900	.	9.300	.	8.400	.	10.800	.	10.800
NOV	BDL	12.400	.	11.600	.	11.000	.	11.500	.	9.400
DEC	.200 <T	12.700	.	11.700	.	.	.	10.900	.	12.700
TRICHLOROETHYLENE (UG/L)			DET'N LIMIT = 0		GUIDELINE = 5.0 (D1)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	.400 <T
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
DICHLOROBROMOMETHANE (UG/L)			DET'N LIMIT = 0		GUIDELINE = 350.0 (A1+)					
JAN	BDL	7.000	.	7.000	.	7.000	.	8.000	.	7.000
FEB	BDL	8.000	.	7.000	.	7.000	.	6.000	.	7.000
MAR	BDL	7.000	.	5.000	.	.	.	8.000	.	9.000
APR	BDL	7.000	.	7.000	.	8.000	.	11.000	.	9.000
MAY	BDL	11.400	.	6.800	.	6.800	.	.	.	4.700
JUN	BDL	8.000	.	6.000	.	7.000	.	8.000	.	8.000
JUL	BDL	8.000	.	7.000	.	10.000	.	11.000	.	8.000
AUG	BDL	10.500	.	9.400	.	11.200	.	11.400	.	11.700
SEP	BDL	11.800 APS	.	9.100 APS	.	10.500 APS	.	.	.	9.900 APS
OCT	BDL	8.900	.	8.700	.	8.400	.	9.600	.	9.800
NOV	BDL	8.600	.	9.100	.	8.000	.	8.100	.	7.700
DEC	BDL	9.050	.	8.150	.	.	.	8.000	.	8.800
CHLORODIBROMOMETHANE (UG/L)			DET'N LIMIT = 0		GUIDELINE = 350.0 (A1+)					
JAN	BDL	3.000	.	3.000	.	3.000	.	3.000	.	3.000
FEB	BDL	4.000	.	3.000	.	3.000	.	3.000	.	3.000
MAR	BDL	3.000	.	2.000	.	.	.	4.000	.	3.000
APR	BDL	2.000	.	2.000	.	2.000	.	3.000	.	2.000
MAY	BDL	4.300	.	2.500	.	2.600	.	.	.	3.000
JUN	BDL	4.000	.	4.000	.	5.000	.	5.000	.	5.000
JUL	BDL	4.000	.	3.000	.	4.000	.	5.000	.	5.000
AUG	BDL	4.100	.	3.800	.	5.000	.	5.100	.	4.900

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

WATER TREATMENT PLANT			DISTRIBUTION SYSTEM							
SITE TYPE	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	BDL	3.500	.	3.200	.	3.900	.	.	.	3.500
OCT	BDL	4.300	.	4.000	.	4.300	.	4.700	.	5.000
NOV	BDL	3.000	.	3.700	.	2.900	.	4.400	.	3.700
DEC	BDL	3.300	.	2.800	.	.	.	3.000	.	3.200
<hr/>										
BROMOFORM (UG/L)			DET'N LIMIT = 0		GUIDELINE = 350.0 (A1+)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	.400 <T	.	BDL	.	BDL	.	.	.	.200 <T
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	.200 <T	.	.200 <T	.	.200 <T	.	.200 <T	.	.200 <T
NOV	BDL	BDL	.	.200 <T	.	BDL	.	.200 <T	.	.200 <T
DEC	BDL	.200 <T	.	.200 <T	.	.	.	.200 <T	.	.200 <T
<hr/>										
1,4 DICHLOROBENZENE (UG/L)			DET'N LIMIT = 0		GUIDELINE = 75.0 (D1)					
JAN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM							
	RAW	TREATED	SITE1		SITE2		SITE3		SITE4	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL	.	.	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	.100 <T	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.	.	.200 <T	.	BDL

TOTL TRIHALOMETHANES (UG/L)			DET'M LIMIT = 0		GUIDELINE = 350.0 (A1)					
JAN	BDL	20.000	.	20.000	.	19.000	.	21.000	.	19.000
FEB	BDL	21.000	.	18.000	.	18.000	.	16.000	.	18.000
MAR	BDL	20.000	.	19.000	.	.	.	23.000	.	26.000
APR	BDL	22.000	.	22.000	.	23.000	.	34.000	.	26.000
MAY	BDL	32.600	.	19.500	.	19.000	.	.	.	16.600
JUN	BDL	22.000	.	19.000	.	21.000	.	24.000	.	23.000
JUL	BDL	23.000	.	20.000	.	32.000	.	35.000	.	25.000
AUG	BDL	31.200	.	29.600	.	34.400	.	34.800	.	37.100
SEP	BDL	34.700	.	25.900	.	31.400	.	.	.	29.200
OCT	BDL	22.300	.	22.200	.	21.300	.	25.300	.	25.800
NOV	BDL	24.000	.	24.600	.	21.900	.	24.200	.	21.000
DEC	BDL	25.250	.	22.850	.	.	.	22.100	.	24.900

TABLE 6

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

COUNT OF PARAMETERS NOT FOUND ABOVE THE DETECTION LIMIT

SCAN	PARAMETER	ANALYSED	DETECTION LIMIT	GUIDELINE
----	-----	-----	-----	-----
CHEMISTRY (LAB)	CYANIDE	68	0.001	.200 (A1) MG/L
METALS	BERYLLIUM	112	0.001	.0002 (H) MG/L
	CYANIDE	68	0.001	.200 (A1) MG/L
	SELENIUM	112	0.001	.010 (A1) MG/L
CHLOROAROMATICS	HEXACHLOROBUTADIENE	68	1.000	450. (D4) NG/L
	1234 T-CHLOROBENZENE	68	1.000	10000. (I) NG/L
	1245 T-CHLOROBENZENE	68	1.000	38000. (D4) NG/L
	OCTACHLOROSTYRENE	68	1.000	N/A NG/L
	26A TRICHLOROTOLUENE	68	5.000	N/A NG/L
CHLOROPHENOLS	234 TRICHLOROPHENOL	4	50.	N/A NG/L
	2345 T-CHLOROPHENOL	4	50.	N/A NG/L
	2356 T-CHLOROPHENOL	4	50.	N/A NG/L
	245-TRICHLOROPHENOL	4	50.	2600000(D4) NG/L
	246-TRICHLOROPHENOL	4	50.	10000. (C1) NG/L
	PENTACHLOROPHENOL	4	50.	10000. (C1) NG/L
PESTICIDES & PCB	ALDRIN	68	1.000	700.0 (A1) NG/L
	ALPHA CHLORDANE	68	2.000	7000.0 (A1) NG/L
	GAMMA CHLORDANE	68	2.000	7000.0 (A1) NG/L
	DIELDRIN	68	2.000	700.0 (A1) NG/L
	METHOXYCHLOR	68	5.000	100000.(A1) NG/L
	THIODAN I	68	2.000	74000. (D4) NG/L
	THIODAN II	68	4.000	74000. (D4) NG/L
	ENDRIN	68	4.000	200.0 (A1) NG/L
	THIODAN SULPHATE	68	4.000	N/A NG/L
	HEPTACHLOR EPOXIDE	68	1.000	3000.0 (A1) NG/L
	HEPTACHLOR	68	1.000	3000.0 (A1) NG/L
	MIREX	68	5.000	N/A NG/L
	OXYCHLORDANE	68	2.000	N/A NG/L
	OPDDT	68	5.000	30000. (A1) NG/L
	PCB	68	20.000	3000. (A2) NG/L
	PP-DDD	68	5.000	N/A NG/L
	PPDDE	68	1.000	30000. (A1) NG/L
	PPDDT	68	5.000	30000. (A1) NG/L
	ALACHLOR	68	500.	35000. (D2) NG/L
	ETHYLENE DIBROMIDE	68	0	50.0 (G) UG/L
	HCB	68	1.000	10.0 (C1) NG/L
POLYAROMATIC HYDROC	PHENANTHRENE	8	0	N/A NG/L
	ANTHRACENE	8	0	N/A NG/L
	FLUORANTHENE	8	0	42000 (D4) NG/L
	PYRENE	8	0	N/A NG/L
	BENZO(A)ANTHRACENE	8	0	N/A NG/L
	CHRYSENE	8	0	N/A NG/L
	DIMETH. BENZ(A)ANTHR	8	0	N/A NG/L
	BENZO(E)PYRENE	8	0	N/A NG/L
	BENZO(J) FLUORANTHEN	8	N/A	N/A NG/L
	BENZO(B) FLUORANTHEN	8	0	N/A NG/L

TABLE 6

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

COUNT OF PARAMETERS NOT FOUND ABOVE THE DETECTION LIMIT

SCAN	PARAMETER	ANALYSED	DETECTION LIMIT	GUIDELINE
----	-----	-----	-----	-----
POLYAROMATIC HYDROC	PERYLENE	8	0	N/A NG/L
	BENZO(K) FLUORANTHEN	8	N/A	N/A NG/L
	BENZO (A) PYRENE	8	0	10 (B1) NG/L
	BENZO(G,H,I) PERYLEN	8	0	N/A NG/L
	DIBENZO(A,H) ANTHRAC	8	0	N/A NG/L
	INDENO(1,2,3-C,D) PY	8	0	N/A NG/L
	BENZO(B) CHRYSENE	8	0	N/A NG/L
	ANTHANTHRENE	8	N/A	N/A NG/L
	CORONENE	8	0	N/A NG/L
SPECIFIC PESTICIDES	TOXAPHENE	68	N/A	5000. (A1) NG/L
	AMETRYNE	68	50.00	300000. (D3) NG/L
	ATRAZINE	68	50.00	60000. (B3) NG/L
	PROPAZINE	68	50.00	16000. (D2) NG/L
	PROMETRYNE	68	50.00	1000. (B3) NG/L
	SENCOR	68	100.00	80000. (B2) NG/L
	2,4,5-T	4	50.00	35000. (D2) NG/L
	2,4-D	4	100.00	100000. (A1) NG/L
	24DCHLRPHENOXYBUTYRC	4	200.00	18000. (B3) NG/L
	2,4-DP	4	100.00	N/A NG/L
	DICAMBA	4	100.00	87000. (B3) NG/L
	PICHLORAM	4	100.00	2450000 (D3) NG/L
	SILVEX	4	50.00	10000. (A1) NG/L
	DIAZINON	4	20.	14000. (A1) NG/L
	DICHLOROVOS	4	20.	N/A NG/L
	DURSBAN	4	20.	N/A NG/L
	ETHION	4	20.	35000. (G) NG/L
	GUTHION	4	N/A	N/A NG/L
	MALATHION	4	20.	160000. (G) NG/L
	MEVINPHOS	4	20.	N/A NG/L
	METHYL PARATHION	4	50.	7000. (B3) NG/L
	METHYLTRITHION	4	20.	N/A NG/L
	PARATHION	4	20.	35000. (B1) NG/L
	PHORATE	4	20.	35.0 (D2) NG/L
	RELDAN	4	20.	N/A NG/L
	RONNEL	4	20.	N/A NG/L
	AMINOCARB	4	N/A	N/A NG/L
	BENOMYL	4	N/A	N/A NG/L
	BUX	4	2000.	N/A NG/L
	CARBOFURAN	4	2000.	18000. (D3) NG/L
	CIPC	4	2000.	350000. (G) NG/L
	DIALATE	4	2000.	30000. (H) NG/L
	EPTAM	4	2000.	N/A NG/L
	IPC	4	2000.	N/A NG/L
	PROPOXUR	4	2000.	90000. (G) NG/L
	SEVIN	4	200.	70000. (A1) NG/L
	SUTAN	4	2000.	245000. (D3) NG/L
	METOLACHLOR	68	500.	50000. (B3) NG/L
VOLATILES	DICHLOROMETHANE	68	0	1750. (D3) UG/L
	111, TRICHLOROETHANE	68	0	200. (D1) UG/L
	1,2 DICHLOROETHANE	68	0	5.0 (D1) UG/L

TABLE 6

DRINKING WATER SURVEILLANCE PROGRAM SOUTH PEEL (LAKEVIEW) WTP 1987

COUNT OF PARAMETERS NOT FOUND ABOVE THE DETECTION LIMIT

SCAN ----	PARAMETER -----	ANALYSED -----	DETECTION LIMIT -----	GUIDELINE -----
VOLATILES	CARBON TETRACHLORIDE	68	0	5.0 (D1) UG/L
	1,2 DICHLOROPROPANE	68	0	10.0 (G) UG/L
	112 TRICHLOROETHANE	68	0	.60 (D4) UG/L
	T-CHLOROETHYLENE	68	0	10.0 (C2) UG/L
	1122 T-CHLOROETHANE	68	0	0.17 (D4) UG/L
	CHLOROBENZENE	68	0	1510. (D3) UG/L
	1,3 DICHLOROBENZENE	68	0	130. (G) UG/L
	1,2 DICHLOROBENZENE	68	0	130. (G) UG/L
	TRIFLUOROCHLOROTOLUE	68	0	N/A UG/L
	ETHYLENE DIBROMIDE	68	0	50.0 (G) UG/L

Appendix A

DRINKING WATER SURVEILLANCE PROGRAM

The Drinking Water Surveillance Program (DWSP) for Ontario monitors drinking water quality at municipal water supply systems. The DWSP Database Management System provides a computerized drinking water quality information system for the supplies monitored. The objectives of the program are to provide:

- immediate, reliable, current information on drinking water quality,
- a flagging mechanism for 'Objective' exceedence,
- a definition of contaminant levels and trends,
- a comprehensive background for remedial action,
- a framework for assessment of new contaminants,
- and an indication of treatment efficiency of plant processes.

Program

The DWSP officially began in April 1986 and is designed to eventually include all municipal water supplies in Ontario; currently 44 plants are being monitored. Water supply locations have been prioritized for surveillance, based primarily on criteria such as population density, probability of contamination and geographical location.

An ongoing assessment of future monitoring requirements at each location will be made. Monitoring will continue at the initial locations at an appropriate level and further locations will be phased into the program as resources permit. It is estimated that after 4 years of operation, the program will be monitoring 90 locations.

A major goal of the program is to collect valid water quality data, in context with plant operational characteristics at the time of sampling. As soon as sufficient data have been accumulated and analysed, both the frequency of sampling and the range of parameters may be adjusted accordingly.

Assessments are carried out at all locations prior to initial sampling in order to acquire complete plant process and distribution system details, and to designate (and retrofit if necessary) all sampling systems and locations. This ensures that the sampled water is a reflection of the water itself.

Samples are taken of the raw (ambient water) and the treated water at the treatment plant, and of consumer's tap water in the distribution system. In order to determine possible effects of distribution on water quality, both standing and free flow water in old and new sections of the distribution system are sampled.

Sampling is carried out by operational personnel who have been trained in the applicable procedures.

Comprehensive standardized procedures and Field Test kits are supplied to sampling personnel. This ensures that samples are taken and handled according to standard protocols and that field testing will supply reliable data. All field and laboratory analyses are carried out using "approved documented procedures". All laboratory analyses are carried out by the MOE Laboratory Services Branch.

Data Reporting Mechanism

When the analytical results are transferred from the MOE laboratory into the DWSP system, printouts of the completed analyses are sent to the MOE District Officer, the appropriate operational staff and are also retained by the DWSP co-ordinator.

DWSP INPUTS AND OUTPUTS

The DWSP INPUTS and OUTPUTS are illustrated in Fig. 1.

PROGRAM INPUTS

PLANT AND DISTRIBUTION SYSTEM DESCRIPTION

The system description includes plant specific non-analytical information acquired through a questionnaire and initial plant visit. During the initial assessment of the plant and distribution system the questionnaire content is verified and

missing information added. It is intended that all data be kept current with scheduled annual updates.

The PLANT and DISTRIBUTION SYSTEM DESCRIPTION consists of the following seven components.

1. Process component inventory

All physical and chemical processes that the water is subjected to, from the intake pipe to the consumers' tap (where possible), are documented. These include: process type, general description of physical structures, material types, sizes, and retention time for each process within the plant. The processes may be as simple as transmission or as complex as carbon adsorption.

2. Treatment chemicals

Chemicals used in the treatment processes, their function, application point, supplier and brand-name are recorded. The chemical dosages applied on the day of sampling are recorded in DWSP.

3. Process control measurements

Documentation of in-plant monitoring of process parameters (turbidity, chlorine residuals, pH, aluminum residuals) including methods used, monitoring locations and frequency is contained in this section. In-plant monitoring results are generally not retained in DWSP but are retained by the Water Treatment Plant.

4. Design flow and retention time

The hydraulic capacity, designed and actual, is noted here. Retention time (the time that a block of water is retained in the plant) is also noted. The maximum, minimum and average flow as well as a record of the flow rate on the day of sampling are recorded in DWSP.

5. Distribution system description

This area includes the storage and transmission characteristics of the distribution system after the water leaves the plant.

6. Sampling system

Each plant is assessed for its adequacy in terms of sampling of bacteriological, organic and inorganic parameters. The prime considerations in the assessment and design of the sampling system are:

- i/ the sample is an accurate representation of the actual water condition, eg. raw water has had no chemical treatment;
- ii/ the water being sampled is not being modified by the sampling system;
- iii/ the sample tap must be in a clean area of the plant, preferably a lab area;
- iv/ the sample lines must be organically inert (no plastic, ideally stainless steel).

It is imperative that the sampled water be a reflection not of the sampling system but of the water itself.

The sampling system documentation includes: origin of the water; date sampling was initiated; size, length and material type (intake, discharge and tap), pump characteristics (model, type, capacity) and flow rate.

7. People

This section contains the names, addresses and phone numbers of current plant management and operational staff, distribution system management and operational staff, Medical Officer of Health and appropriate Ministry of Environment personnel associated with the plant.

FIELD DATA

The second major input to DWSP is field data.

Field data is collected at the plant and from the distribution system sites on the day of sampling. The field data consists of general operating conditions and the results of testing for field parameters. General operating conditions include chemicals used, dosages, flow and retention time on the day of sampling as well as monthly maximum, minimum and average flows. Field parameters include turbidity, chlorine residuals (free, combined and total), temperature and pH. These parameters are analysed according to standardized DWSP protocols to allow for interplant comparison.

LABORATORY ANALYTICAL DATA

The third major input to DWSP is Laboratory Analytical Data.

Samples gathered from the raw, treated and distribution sampling sites are analyzed for approximately 160 parameters at a frequency of two to twelve times per year. Sixty-five percent of the parameters are organic. The parameters measured may have health or aesthetic implications when present in drinking water. Many of the parameters may be used in the treatment process or may be treatment by-products. Due to the nature of certain analytical instruments parameters may be measured for in a "scan" producing some results for parameters that are not on the DWSP priority list but which may be of interest. The majority of the parameters are measured on a routine basis however, those that are technically more difficult and/or costly to analyse for are done less frequently. These include Specific Pesticides and Chlorophenols.

Although the parameter list is extensive, additional parameters with the potential to cause health or aesthetic related problems may be added provided reliable analytical and sampling methods exist.

All laboratory generated data is derived from standardized, documented analytical protocols. The analytical method is an integral part of the data and as methods change notation will be made and intercomparison data documented.

PARAMETER REFERENCE INFORMATION

The fourth major input to DWSP is Parameter Reference Information

This is a catalogue of information for each substance analysed on DWSP. It includes parameter name and aliases, physical and chemical properties, basic toxicology, world-wide health limits, treatment methods and uses. The Parameter Reference Information is computerized and can be accessed through the Query function of the DWSP database.

An example is shown in fig. 2.

A written copy (hard version) of the Parameter Reference Information will be available in the near future and is a new and sophisticated enhancement to the DWSP.

PROGRAM OUTPUTS

There are four major program outputs, Query, Action Alert, Report Generation and the Annual Report.

QUERY

All DWSP information is easily accessed through the Query function, therefore anything from addresses of plant personnel to complete water quality information for a plant's water supply is instantly available. The DWSP computer system makes relatively complex inquiries manageable. A personal password allowing access into the DWSP query mode in all MOE offices is being developed by the DWSP group.

ACTION ALERTS

Drinking Water quality in Ontario is evaluated against provincial objectives as outlined in the publication, Ontario Drinking Water Objectives (ISBN 0-7729-2725-1 revised 1983). This publication contains health-related Maximum Acceptable Concentrations for thirty substances. Should the reported level of a substance in treated water exceed the Ontario Drinking Water Objective an "Action Alert" requiring resampling and confirmation is issued. This assures that operational staff, health authorities and the public are notified as soon as possible of confirmation of an exceedance and remedial action taken. This report supplies a history of the occurrence of past exceedences at the plant plus a historical summary on the parameter of concern.

In the absence of Ontario Drinking Water Objectives, other agency guidelines which are documented in the Parameter Reference Information may be used. If these guidelines are exceeded the results are flagged and evaluated by DWSP personnel. An "Action Alert" will be issued if warranted.

REPORT GENERATION

Custom reports can be generated from DWSP to meet the needs of the regions and to respond to public requests.

ANNUAL REPORTS

It is the practice of DWSP to produce an annual report containing analytical data along with companion plant information.

FIG. 1

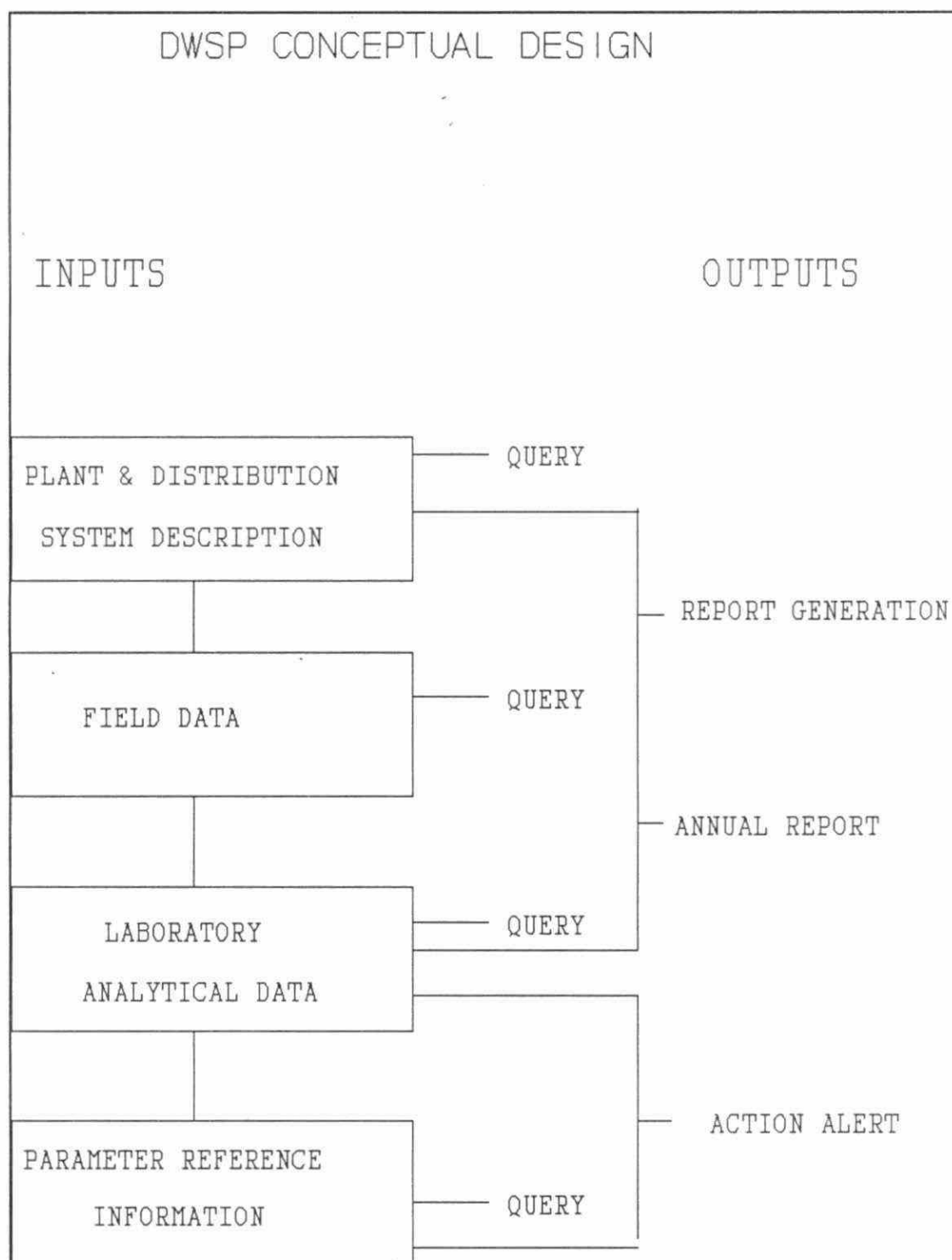


FIG.2

MOE - DRINKING WATER ASSESSMENT PROGRAM (DWSP)

(B2001P)
REFERENCE
BENZENE

PARAMETER

SOURCE FROM	TO	METHOD	TARG	UNIT	NOTE
EPA C 86/04		NOMETH	.00	063000 UG/L	RMCL
EPAA C 80/11		NOMETH	6.60	063000 UG/L	
FERC C 84/05		NOMETH	1.00	063000 UG/L	
WHO C 84/01		NOMETH	10.00	064000 UG/L	

DESCRIPTION: NAME: BENZENE

CAS#: 71432

MOLECULAR FORMULAE: C_6H_6

DETECTION LIMIT: (FOR METHOD POCODO) 0.05 UG/L

SYNONYMS: BENZOLE, COAL NAPHTHA, CARBON OIL (27),
CYCLOHEXATRIENE (41)CHARACTERISTICS: COLOURLESS TO LIGHT YELLOW, MOBILE,
NON-POLAR LIQUID, OF HIGHLY REFRACTIVE NATURE,
AROMATIC, VAPOURS BURN WITH SMOKING FLAME (30)

PROPERTIES:

SOLUBILITY IN WATER: 1780-1800 MG/L AT 25 DEG C (41)

THRESHOLD ODOUR: NO DATA

THRESHOLD TASTE: 0.5 MG/L IN WATER (39)

ENVIRONMENTAL FATE: MAY BIOACCUMULATE IN LIVING
ORGANISMS, APPEARS TO BIOACCUMULATE IN ANIMAL
TISSUES THAT EXHIBIT HIGH LIPID CONTENT OR ARE
MAJOR METABOLIC SITES (LIVER, BRAIN), SMALL
QUANTITIES EVAPORATE FROM SOIL OR DEGRADE QUICKLY
SOURCES: PETROLEUM REFINING, SOLVENT RECOVERY, COAL
TAR DISTILLATION, FOOD PROCESSING, TANNING.USES: PREPERATION OF ETHYL BENZENE USED AS A STYRENE
MONOMER, DETERGENTS, NYLON, AS INTERMEDIATE INPESTICIDE PRODUCTION, SOLVENT IN RUBBER INDUSTRY,
DEGREASING AND CLEANSING AGENT, GASOLINE.TOXICITY: RATING 4 (VERY TOXIC); ACUTE - IRRITATES
MUCOUS MEMBRANES, SYMPTOMS INCLUDE RESTLESSNESS,
CONVULSIONS, DEPRESSION, RESPIRATORY FAILURE;

CHRONIC - ANEMIA AND LEUKEMIA (45).

CARINOGENICITY: HUMAN CARCINOGEN AND MUTAGEN

REMOVAL: GAC ADSORPTION, PRECIPITATION WITH ALUM
FOLLOWED BY SEDIMENTATION, COAGULATION AND
FLOCCULATION, SOLVENT EXTRACTION, OXIDATION (41).

MOLECULAR WEIGHT: 78.12 GRAMS

MELTING POINT: 5.5 DEGREES C (27)

BOILING POINT: 80.1 DEGREES C (27)

SPECIFIC GRAVITY: 0.879 AT 20 DEGREES C (27)

VAPOUR PRESSURE: 100 MM AT 26.1 DEGREES C

HENRY'S LAW CONSTANT: 0.00555 ATM M_3 /MOLE

LOG OCT./WATER PAR.COEFF:K=1.0 1/N=1.6 R=.97 PH=5.3

Appendix B

DWSP SAMPLING GUIDELINE

i) RAW and TREATED at PLANT

General Chemistry	<ul style="list-style-type: none">-500 mL clear plastic bottle-rinse bottle with sample three times and discard water-fill to line
Bacti	<ul style="list-style-type: none">-250 mL clear glass bottle with white seal on cap-do <u>not</u> rinse bottle; preservative has been added-avoid touching bottle neck or inside of cap-fill to top of red label as marked
Metals	<ul style="list-style-type: none">-500 mL clear plastic bottle with white lid-rinse bottle and cap three times, discard-fill to line-add 10 drops nitric acid (Caution: HNO_3 is corrosive)
Volatiles (OPOPUP)	<ul style="list-style-type: none">-250 mL clear glass bottle-do <u>not</u> rinse bottle-tilt bottle when filling-fill bottle completely; there should be no air bubbles.
Organic (OWOC), (OWTRI), (OAPAHX)	<ul style="list-style-type: none">-1 liter brown glass bottle per scan-do <u>not</u> rinse bottle-fill to approx. 1" from top-when 'special pesticides' are requested three extra bottles per sample must be submitted
Cyanide	<ul style="list-style-type: none">-500 mL clear plastic bottle-do <u>not</u> rinse bottle-fill to approx. 1" from top-add 10 drops sodium hydroxide (Caution: NaOH is corrosive)

Mercury

- 250 mL clear glass bottle
- rinse bottle and cap three times, discard then fill to top of label
- add 20 drops each nitric acid and potassium dichromate
- (**Caution:** HNO_3 and KCrO_7 corrosive)

Phenols

- 250 mL clear glass bottle
- do not rinse bottle
- fill to top of label as marked

Steps

1. Let cold water tap run for several minutes.
2. Record time in submission sheet.
3. Record teperature on submission sheet.
4. Fill up all bottles as per instructions.
5. Record chlorine residuals (free, combined and total for treated water only), turbidity and pH on submission sheet.

ii) Distribution Samples (standing water)

General Chemistry	-500 mL clear plastic bottle -rinse bottle with sample three times and discard -fill to line
Metals	-500 mL clear plastic bottle with white lid -rinse bottle and cap three times, discard -fill to line -add 10 drops nitric acid (Caution: HNO_3 is corrosive)

Steps:

1. Record time on submission sheet.
2. Place bucket under tap and open cold water.
3. Fill to predetermined volume.
4. After mixing the water, record the temperature on the submission sheet.
5. Fill general chemistry and metals bottles.
6. Record chlorine residuals (free, combined and total), turbidity and pH on submission sheet.

iii) Distribution Samples (free flow)

General Chemistry	<ul style="list-style-type: none">-500 mL clear plastic bottle-rinse bottle with sample three times and discard water-fill to line
Bacti	<ul style="list-style-type: none">-250 mL clear glass bottle with white seal on cap-do <u>not</u> rinse bottle; preservative has been added-avoid touching bottle neck or inside of cap-fill to top of red label as marked
Metals	<ul style="list-style-type: none">-500 mL clear plastic bottle with white lid-rinse bottle and cap three times, discard-fill to line-add 10 drops nitric acid (Caution: HNO_3 is corrosive)
Volatiles (OPOPUP)	<ul style="list-style-type: none">-250 mL clear glass bottle-do <u>not</u> rinse bottle; preservative has been added-tilt bottle when filling-fill bottle completely; there should be no air bubbles
Organic (OWOC), (OWTRI)	<ul style="list-style-type: none">-1 liter brown glass bottle per scan-do <u>not</u> rinse bottle: preservative has been added-fill to approx. 1" from top
Cyanide	<ul style="list-style-type: none">-500 mL clear plastic bottle-do <u>not</u> rinse bottle: preservative has been added-fill to approx. 1" from top-add 10 drops sodium hydroxide (Caution: NaOH is corrosive)
Mercury	<ul style="list-style-type: none">-250 mL clear glass bottle-rinse bottle and cap three times, discard then fill to top of label-add 20 drops each nitric acid and potassium dichromate (Caution: HNO_3 and KCrO_7 corrosive)

Steps:

1. Record time on submission sheet.
2. Let cold water flow for ten minutes.
3. Record temperature on submission sheet.
4. Fill all bottles as per instructions.
5. Record chlorine residuals (free, combined and total), turbidity and pH on submission sheet.

TD
434
.S68
1988

South Peel (Lakeview) water
treatment plant : annual report
1987.
78817